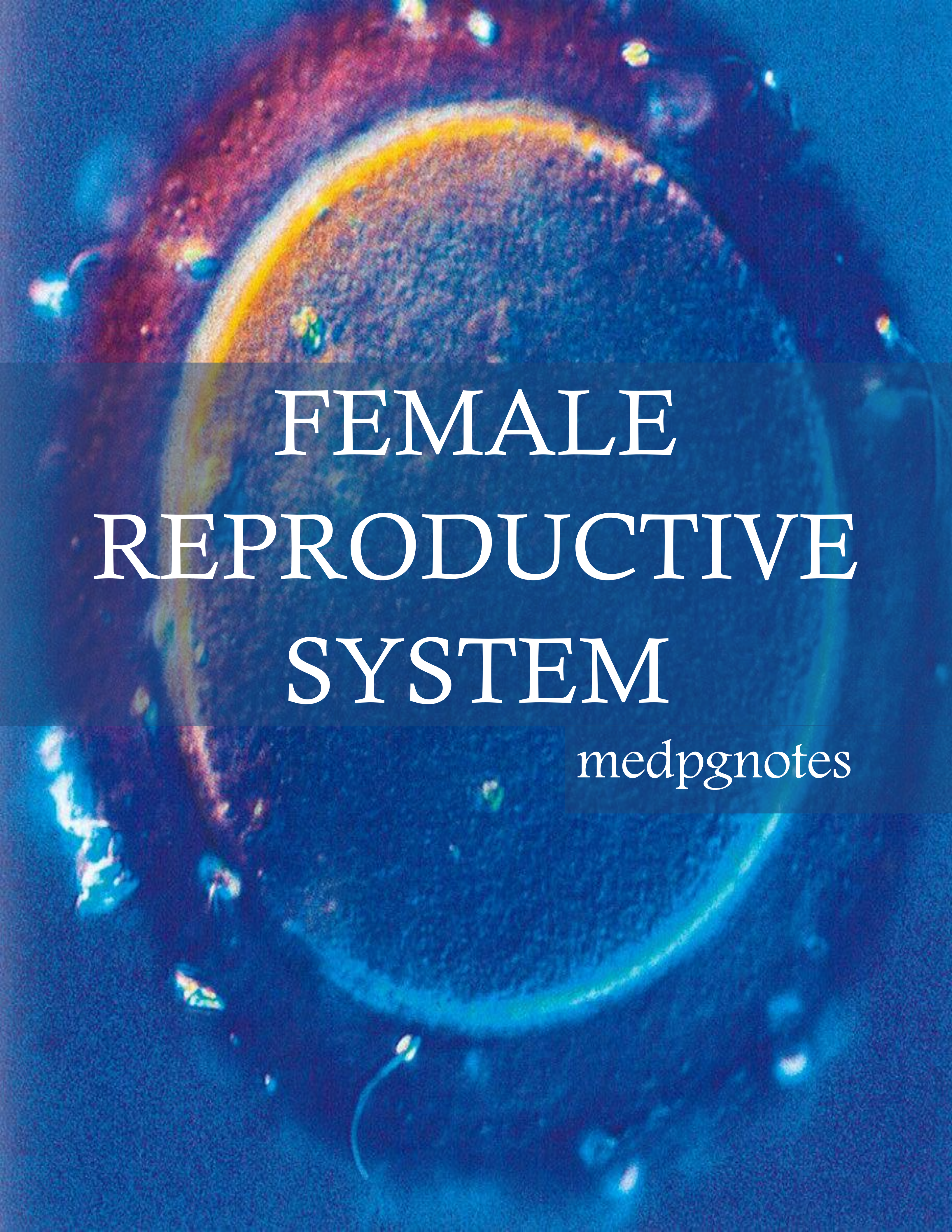

FEMALE REPRODUCTIVE SYSTEM

medpgnotes

FEMALE REPRODUCTIVE SYSTEM

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KEY TO THIS DOCUMENT

Text in normal font – Must read point. Asked in any previous medical entrance examinations

Text in bold font – Point from Harrison's text book of internal medicine 18th edition

Text in italic font – Can be read if you are thorough with above two.

DEVELOPMENT OF FEMALE REPRODUCTIVE SYSTEM

Vestibule of vagina develops form	Urogenital sinus
Labia majora develops from	*Genital swelling*
Urethra originates from	Urogenital sinus
Lower end of vagina develops from	Urogenital Sinus
Fallopian tube develops from	Mullerian duct
Cervix develops from	Mullerian duct
Uterus develop form	Mullerian duct
Paramesonephric duct forms	Uterus
Paramesonephric duct derivatives	Appendix of testis, Hydatid of morgagni, Uterus
Paraovarian cyst develops from	Wolfian duct
Para ovarian cyst is a derivative of	Wolfian duct
Gartner duct is a remnant of	Wolfian duct
Cephalic remnant of mesonephric duct	Epoophoron
Cranial end of Wolfian duct forms	Epophoron
Paraoophoron	*Caudal end*
Mesonephric duct related to lateral wall of vagina	Gartner's cyst
Gartner cyst seen in	Vagina
Epoophoron is also known as	Organ of Rosenmuller
Remnant of mesonephric duct	Gartner's duct
Clitoris develop from	Genital tubercle
Origin of ovary from	Genital ridge
Transverse vaginal septum correspond to	External os
Vaginal epithelium develops from	Endoderm of urogenital sinus
Lower part of vagina develops from	Urogenital sinus
Shotgun Perineum	Congenital condition in females

ANATOMY OF FEMALE REPRODUCTIVE SYSTEM

Length of female urethra	4 cm
External os in multiparous women	Transverse
External os in nulliparous woman	Circular
Normal urethrovesical angle in female	100*
Normal Posterior urethrovesical angle, when bladder is empty	100*
Goniometer used for	Urethrovesical angle
Vagina	No mucus secreting gland, Supplied by uterine artery, Lined by stratified squamous epithelium, Posterior wall in covered by peritoneum
Vagina is lined by	Stratified squamous epithelium
Peritoneum is present in	Posterior wall of vagina
Main source of physiological secretion found in vagina	Cervix
Vaginal mucosa maintained by	Low pH, Doderlein bacilli, Glycogen
Vagina in newborn lined by	Transitional
Mucous secreting glands are absent in	Vagina
Mucus secreting glands are absent in	Vagina
pH of vagina	4.5 – 5.5

FEMALE REPRODUCTIVE SYSTEM

pH of vagina is lowest during	Pregnancy
Protective bacterium in vagina	Lactobacillus
Function of lactobacilli	*Maintains acidic environment*
Supports of vagina	Perineal body, Pelvic diaphragm, Levator ani
Levels of vaginal support	*Level I – Mackendrot, level II – obturator, level III – perineal body*
Level III support	*Perineal body*
NOT a support of vagina	Infundibulopelvic ligament
Vaginal sphincter is formed by	External urethral sphincter, Pubovaginalis, Bulbospongiosus
Vaginal sphincter is NOT formed by	Internal urethral sphincter
Feature of Vagina	Posterior fornix longer than anterior
Lateral vaginal fornix related to	Ureter, Mackendrot's ligament, Uterine artery
Ureter is related to fornix of vagina	2 cm above and lateral
Related to lateral vaginal fornix	Ureter, Uterine artery, Mackendrot ligament
Related to lateral wall of vagina and uterus	Ureter
Through posterior fornix of vagina one can palpate	Rectum
Azygous artery is formed by	Vaginal artery
Pavlik triangle	*On anterior vaginal wall, corresponds to trigone of bladder*
Lymphatic drainage of vulva	Inguinal lymph nodes
Clitoris is drained by	Glands of cloquet, Deep inguinal nodes
Bartholin's duct near mouth is lined by	Squamous epithelium
Bartholin gland correspond to	Cowper gland
Epithelial lining of bartholin duct	Columnar
Bartholin's duct open into	Groove between Labia minora and hymen
Length of cervical canal	2.5 cm
Normal cervical index	*0.32 (1+funnel length/endocervical length)*
pH of cervix	7.8
Normal pH of cervix	8
Uterine cervix ratio up to 10 years	1:2
Cervix to body ratio in Prepubertal girl	1:1
Epithelial lining of cervical canal	High columnar
Nabothian follicles	Erosion of cervix
Cervical opening in nulliparous	Circular
Lymphatic drainage of Cervix & Upper Vagina	Parametrial nodes
Weight of nulliparous uterus	50-80 g (60g)
Volume of uterus	*3 ml*
Size of uterus in inches	3*2*1
Angle of Anteflexion of uterus	120*
Isthmus	Forms lower uterine segment, Mucosa similar to endometrium, Present between cervical mucosa and endometrial mucosa
Secondary support of uterus	Broad ligament
Structure in broad ligament all along its course	*Round ligament*
NOT a strong support to uterus	Round ligament (only weak support)
NOT a support of uterus	Broad ligament
Content of broad ligament	Ovary
NOT a content of broad ligament	Ovarian ligament, Round ligament, Fallopian tube

NOT a content of broad ligament	Hypogastric nerve
Long axis of uterus usually lies approximately in axis of	Superior pelvic aperture
Least vascular part of uterus	Middle
Uterine artery is a branch of	Internal iliac artery
Uterine artery anastomoses with	Ovarian artery
Venous drainage of upper part of uterus and placenta	Ovarian vein
Lymphatic drainage of uterus	Internal iliac nodes
Fallopian tube	Ovary is attached to uterus by ovarian ligament, Uterine artery supplies medial 2/3rd, Ampulla is the longest part
Length of fallopian tube (oviduct)	10 -12 cm
Narrowest part of fallopian tube	Interstitial portion
Fallopian tube is lined by	Ciliated columnar epithelium
Tubes are lined by	Ciliated epithelium
Peg cells	Fallopian tube
Parts of fallopian tube from ovary to uterus	Infundibulum – ampulla –isthumus – interstitium
Part of fallopian tube functions as anatomical sphincter	Interstitium
Longest part of fallopian tube	Ampulla
On table identification of fallopian tube	*Fimbriae*
Primary peritonitis is common in females because	Ostia of fallopian tube communicate with abdominal cavity
1/3rd of length of tube is formed by	Isthmus
Liquid silicone is injected into	fallopian tube
Size of ovum	0.133 mm
Size of Graafian follicle	6 mm
NOT a covering of Graafian follicle	Germinal cells

CONGENITAL MALFORMATIONS OF FEMALE REPRODUCTIVE SYSTEM

GENERAL FEATURES OF CONGENITAL ANOMALIES OF FEMALE GENITAL TRACT

Commonest congenial anomaly of uterus	Septate uterus
Commonest reason for adherent labia minora in a newborn	Agglutination of labia
Lesion in female child born to mother treated with DES	Vaginal adenosis, Hepatic adenoma
Diethylstilbestrol cause	Perifibrical cyst, T shaped uterus, Vaginal adenosis
Vaginal adenoma in child hood is due to	Hormonal changes, Viral infection, Administration of DES to pregnant woman
Teratogenecity of diethylstilbestrol	Clear cell carcinoma, Malformation of vagina and uterus, Vaginal adenosis
NOT an adverse effect of diethylstilbestrol	Microglandular hyperplasia
Hematosalpinx is seen in	Hematocolpos, Torsion of hydrosalpinx, Tubal pregnancy
Hematocolpos cause	Retention of urine, Primary amenorrhea
Cochleate uterus	Acute anteflexion

Condition does NOT present with both mullerian and Wolfian duct structures	FSH receptor mutation
Lipschutz ulcer is seen in	Vagina
NOT an uterine anomaly	Hematocolpos

SEPTATE UTERUS

Recurrent breech presentation is due to	Septate uterus
Strassman operation	Unification of septate uterus
Diagnosis of septate uterus by	USG

UTERUS DIDELPHYS

Complete failure of mullerian duct fusion will result in	Uterus didephys
Extreme degree of failure of mullerian fusion	Uterus didelphis
Procedure of choice to diagnose uterus didelphis	Hysterosalpingography

BICORUNATE UTERUS

Bicornuate uterus is due to	Incomplete fusion of paramesonephric duct
Unicollis bicronis means	Two uterine cavity with one cervix
Most important indication of surgical repair of bicorunate uterus	Habitual abortion

VAGINAL ATRESIA

Vaginal atresia associated with	Uterine atresia
Ideal age for repair of vaginal atresia	Before marriage

GARTNER CYST

Girl presents with cystic swelling at the junction of lower one third and upper two third of anterior wall of vagina at 10'O clock position	Gartner's cyst
Gartner cyst can be differentiated from cystocele by	Non reducible, No impulse of coughing
NOT a derivative of paramesonephric duct	Gartner cyst

MRKH SYNDROME

Primary amenorrhea, normal ovaries, absent internal genitalia, but normal external genitalia	MRKH syndrome
Primary amenorrhea, Bilateral inguinal hernia, Normal sexual development but NO pubic hair, USG shows	Mullerian agenesis

absent uterus and vagina	
Characteristic feature of Rokitanski Kuster Hauser syndrome	Absent uterus, absent vagina,46 XX
Rokitansky Kuster syndrome is associated with	Vaginal atresia
Ovaries function normally in	MRKH syndrome
NOT a feature of MRKH syndrome	Anovulation
NOT a feature of mullerian agenesis	Ovarian agenesis
A female with primary amenorrhea and absent vagina, next investigation	Laparoscopy
16 year female, primary amenorrhea, short blind vagina, absent uterus. Next investigation	Karyotyping

BARTHOLIN CYST

Bartholin cyst caused by	Gonococcus
Swelling characteristically seen in junction of anterior 2/3rd and posterior 1/3rd of inner side of labius major	Bartholin’s cyst
Elderly woman with recurrent swelling and pain	Bartholin’s cyst
Best treatment for woman presenting with fluctuant non tender swelling at introitus	Marsupialisation
Bartholin’s abscess is	Bilateral, treated by antibiotics, caused by Gonococci
Ca Bartholin’s gland is best treated by	Radical vulvectomy

PHYSIOLOGY OF FEMALE REPRODUCTIVE SYSTEM

GENERAL FEATURES OF FEMALE REPRODUCTIVE SYSTEM

Primordial follicles completely developed within	8 weeks
Syncitiotrophoblast and cytotrophoblast differentiate on	8 days
Granulosa cells produce estrogen with the help of	Aromatase
Aromatase converts	Testosterone to Estrogen
Enzyme associated with conversion of androgen to estrogen in growing ovarian follicle	Aromatase
Post menopausal estrogen production is due to	Peripheral aromatization of androstenedione
Gonadotrophin is a	Glycoprotein
True about menopausal hormonal change	Gonadotrophin and estrogen decrease
Before onset of puberty, GnRH neurons are under inhibitory control of	GABA
Major inhibitory substance in CNS	GABA
In postmenopausal women, increased level of	FSH
Sample for FSH and LH best taken on	1-4 days
FSH receptors present in	Granulose cells
Ovarian reserve best indicated by	FSH
Sample for FSH LH taken on	8 – 10th day of menstrual cycle
Theca cells of ovary produce	Both estrogen and progesterone
Ovary secrete	Oestrogen, progesterone, testosterone

Naturally occurring estrogens	Estrone, Estradiol, Estriol
Products of cervical mucus is stimulated by	Estradiol
Ferning of cervical mucus depends on	Estrogen
High prolactin is associated with	Elevated estradiol
Aromatic ring	Estradiol
Ferning of cervical mucus disappears after	21st day of menstrual cycle
Post ovulation cervical mucus	Thick
Effect of progesterone on lipids	Lowers HDL and increases LDL
Withdrawal bleeding occurs when progestins administered continuously	Estrogen concentration is sufficient
Progesterone is produced by	Granulose luteal cells
Source of progesterone during normal menstrual cycle	Corpus luteum
Mid cycle shift in basal body temperature after ovulation in women. Caused by	Progesterone
Hormone responsible for lactation	Prolactin
Inhibin	Inhibits FSH secretion, Secreted by graafian follicle, Increased secretion of inhibin in PCOD
Probable source of relaxin	Ovary
Follistatin	*Binds activin and thus decrease FSH secretion*
Sertoli cells have receptors for	FSH
Sertoli cells are important for	*Mitotic and meiotic activity*
Androgen binding protein secreted by	Sertoli cells
Mullerian inhibitory substance is secreted by	Sertoli cell
Mullerian Regression factor is produced by	Sertoli cells
Cart wheel appearance of Nucleus	Sertoli cells
NOT true about sertoli cells	Stimulate LH
Sertoli cells DOES NOT secrete	Testosterone
In those mammals which are seasonal breeder, females are receptive only once in a year	Estrous cycle
NOT seen in humans	Estrous cycle
NOT related with menstrual cycle	Estrous cycle

OVULATORY PHASE

NOT true for reasons of right ovary ovulating more	Right handedness is more common in population
Ovulatory phase	Stimulation of continuation of reduction division of oocytes
Ovulation occurs	After follicular stimulation
Ovarian cycle is initiated by	FSH
Ovulation occurs as a result of	Mid cycle LH surge
Ovulation associated with sudden rise in	LH
In early ovarian cycle, estrogen	*Inhibits gonadotrophin release*
In late ovarian cycle, estrogen	*Stimulates gonadotrophin release*
Feedback mechanism depends on	*Concentration of estrogen*
Earliest histological feature of ovulation	*Basal vacuolation*
LH is required for	*Follicular growth*
Positive feedback for inducing LH associated with	High estrogen and low progesterone
Increased LH levels in ovarian cycle due to	Increased estrogen

LH surge due to	Positive feedback
LH peak prior to ovulation	8-10 hours
Duration of LH surge	24 hours
Time interval between LH surge and ovulation	24 – 36 hours
LH surge precedes ovulation by	36 hours
Ovulation period corresponds to	14 days before menstruation
In 25 day menstrual cycle, ovulation occurs at	11th day
Ovulation in 38 day cycle	24th day
In 40 days menstrual cycle, ovulation occurs at	26th day (luteal phase fixed last 14 days)
Fall of temperature at ovulation is by	0.5 degree celsius
Positive indicators of Ovulation	Follicle size 10 mm, Corpus luteum, Double rise in basal temperature
Hormonal picture for ovulation to occur	High estrogen, Low progesterone
Earliest morphological evidence of ovulation on endometrial biopsy	Basal vacuolation
Whether the cycle is ovulatory or non ovulatory is studied by	Progesterone
The next ovulatory cycle after implantation is postponed because of	*Production of HCG by trophoblast cells*

LUTEAL PHASE

Follicular phase is based on	*2 cell 2 gonadotrophin theory*
Luteal phase is based on	*2 cell 1 gonadotrophin theory*
When there is NO fertilization of ovum, endometrial cells die because	Involution of corpus luteum causes estradiol and progesterone levels to fall dramatically
Increased Estrogen & Increase Progesterone is seen in	Premenstrual Phase
Corpus luteum secrete	Both estrogen and progesterone
Corpus luteum activity is maintained by	LH
Corpus luteum of menstruation presents for	14 days
Maximum function of Corpus luteum	9th Post ovulation day
Placenta overtakes function of corpus luteum for hormone production at	6 weeks
Irregular shedding of endometrium due to	Overactivity of corpus luteum function
NOT true about corpus luteum	*Does NOT secrete estrogen*
Luteolysis by	*PGF2 alpha*

PROLIFERATIVE PHASE

Predominant hormone of Proliferative phase	Progesterone
Proliferative phase of endometrium	Starts and proceeds rapidly for 3-5 days, Glands of functional layer are simple tubules with regular epithelium, Intense hyperemia

SECRETORY PHASE

Secretory phase of Endometrium is due to	Progesterone
Subnuclear vacoulation of endometrium	Secretory phase
Endometrium of 22nd day of Menstrual cycle	Secretory
Corkscrew shaped endometrial glands is seen in	Late secretory phase
Resurfacing of entire endometrium has occurred by	*Last day of menstrual flow*

VAGINAL CYTOLOGY

Vaginal cytology for hormonal change is best taken from	Lateral wall
Maturation index on vaginal cytology is a diagnostic method for evaluating	Endocrine status of cervix
Cornification or eosinophilic index indicates	Estrogenic effect
Cornification index is maximum in	Late Proliferative phase
Navicular cells in vaginal cytology	Progesterone
Maturation index during pregnancy	0,95,5
Vaginal smear in old lady shows	Basal and parabasal cells, Few intermediate cells
Karyopyknotic index is maximum	*At the time of ovulation*

SEXUALITY AND INTERSEXUALITY

SEXUALITY IN FEMALES

Gonadal sex of fetus is determined by	Sex determining region on Y chromosome
Sex of an individual is determined by single gene on	Y chromosome
X chromosome inactivation	X gene, Seen in female
Female sex chromatin	XX
Puberty is brought about by maturation of	Hypothalamic axis
Puberty	Pulsatile release of GnRH
GnRH pulse generation is inhibited by	*Progesterone*
Sequence of development of puberty in girls	Thelarche, Pubarche, Menarche
First sign of puberty is girls	Thelarche
Number of years required to complete sequence of puberty in female	*4.5 years*
Average age of menarche	*12.5 years*
Sexual maturity scoring I	*prepubertal*
Sexual maturity scoring in girls	Onset of menarche, Breast development, Pubic hair development
Peak growth velocity in adolescent girl is seen just after	Appearance of pubic and axillary hair
Growth of axillary hair is due to	Testosterone
NOT estrogen dependent	Hair growth

Sexual infantilism associated with	Pituitary tumors, Dwarfism, Gonadal dysplasia
Delayed puberty	*If attainment of menarche after 16 years or attainment of secondary sexual characters after 13 years*
Delayed puberty associated with	Hypothyroidism, Hypopituitarism, Anorexia nervosa, Chronic disease

PRECOCIOUS PUBERTY

MC cause of precocious puberty	Idiopathic
Precocious puberty seen in	Granulosa cell tumor, Head injury, corticosteroid intake
Precocious puberty	Hypothyroidism, Head injury, Granulosa cell tumor, Corticosteroid intake
Precocious puberty in girls	Hypothalamic hamartoma, McCune Albright syndrome, Granulosa cell tumor of ovary
NOT a cause of precocious puberty in girls	Congenital 21 alpha hydroxylase
NOT associated with precocious puberty	Testicular feminization syndrome
Menstruation is precocious if it starts before age of	10 years
In precocious puberty menstruation occurs	Less than 10 years of age
Precocious puberty	Sexual maturity is attained earlier
A girl with precocious puberty with laughter for unknown reasons	Hypothalamic hamartoma
Drug of choice in Precocious puberty	Progestin
Medication used in treatment of idiopathic central precocious puberty	GnRH analogue

MCCUNE ALBRIGHT SYNDROME

McCune albright syndrome	Polyostic Fibrous Dysplasia of Bone, Café au lait spot, Precocious Puberty
Endocrinopathy, Fibrous dysplasia of bone, Hyperpigmentation	McCune Albright Syndrome
Familial polyostosis, precocious puberty and pigmentation	McCune Albright syndrome
NOT a feature of McCune Albright Syndrome	Osteogenesis Imperfecta

KALLMAN SYNDROME

Normal stature with minimal or absent pubertal development	*Kallman syndrome*
Primary Amenorrhea with anosmia	Kallman Syndrome
Hypothalamic amenorrhea	Kallman syndrome
Kallman syndrome	Hypogonadotrophic hypogonadism
Increased in Kallman syndrome	TSH

INTERSEXUALITY

Male Pseudohermophroditism	XY genotype, female external genitalia
Female pseudohermaophroditism	46XX , Clitoromegaly
MC cause of ambiguous genitalia in female child	Congenital adrenal hyperplasia
Commonest cause of female pseudohermophroditism	Congenital adrenal hyperplasia
Treatment of virilising adrenal hyperplasia	Cortisone
Best prenatal treatment of CAH	Dexamethasone
Reftenstein syndrome	**Partial androgen insensitivity syndrome**
15 year old female with primary amenorrhea, her breasts are tanner 4 but no axillary or pubic hair	Testicular feminization syndrome
Primary amenorrhea, normal sexual development and normal breast, absent pubic and axillary hair. Bilateral inguinal hernia, absent uterus and blind vagina	Androgen insensitivity syndrome
Amenorrhea, Well developed breast, Absent uterus, Absent chromatin body	Testicular feminizing syndrome
Primary amenorrhea, grade V thelarche, grade II Pubarche, no axillary hair	Testicular feminization
NOT true about complete testicular feminization	*Pre lobular bulb*
Androgen insensitivity syndrome	XY genome, short vagina may be present, ovaries absent
Androgen insensitivity syndrome	Primary amenorrhea, absent uterus, normal breast, scant pubic hair
Androgen insensitivity syndrome	Phenotype may be completely female
Phenotype in androgen insensitivity syndrome	Completely female
Karyotype of androgen insensitivity syndrome	46 XY
Absence of both Wolfian and Mullerian duct structures	Androgen insensitivity syndrome
Testicular feminization syndrome is associated with	Primary amenorrhea
NOT true about Androgen insensitivity syndrome	Short stature, Abundant pubic hair
In testicular feminization syndrome, gonadectomy is indicated at	Puberty
Pure gonadal dysgenesis is diagnosed in presence of	Bilateral streak gonads
Non migration of germ cells from primitive yolk leads	Gonadal dysgenesis
Least common cause of ambiguous genitalia in a female child	Fetal placental steroid sulfatase deficiency
Ambiguous genitalia is NOT seen in	Superfemales
NOT a cause with external genitalia of male with 46XX	Anti Mullerian hormone deficiency

DISORDERS OF MENSTRUATION

GENERAL FEATURES OF DISORDERS OF MENSTRUATION

Average blood loss in menstruation	50 ml
Blood loss during usual menstrual period	150 – 200 ml
Failure of bleeding after withdrawal of estrogen indicate	Uterine factor

Withdrawal bleeding occurs when progestins administered continuously	Estrogen sufficient
Initial evaluation in adolescent with abnormal uterine bleeding	Hemogram, Platelet count, USG
Simple hyperplasia of endometrium treated with	Progesterone for 21 days
45 year old woman with atypical adenomatous hyperplasia of endometrium	Hysterectomy
Teenage girl moderate acne with history of irregular menses	Cyproterone acetate
Middle aged female visual loss, breast engorgement irregular menses. Investigation of choice	Serum prolactin
MC source of vicarious menstruation	Nose
20 year woman history of sharp pain in lower abdomen for 2-3 days every month approximately 2 weeks before menses	Mittelschmerz
Mittelschmerz	**Rupture of Graafian follicle**
Criteria for premenstrual syndrome	*2 months*
Premenstrual syndrome occurs	*5 days before menstrual cycle*
Modality shown best result for premenstrual syndrome	SSRI
Best result for premenstrual syndrome	SSRI
Features of Carcinoma fallopian tube	Occurs in nullipara, Adenocarcinoma, Very rare
Characteristic feature of carcinoma fallopian tube	Watery discharge per vaginum

AMENORRHEA

Physiological amenorrhea	Pregnancy, Lactation, Pre puberty
3 month amenorrhea in a female can NOT be	Endometriosis
NOT a cause of amenorrhea	Adenomyosis
Next step in a girl presenting vaginal bleeding and occasional amenorrhea	Clinical history and examination
Withdrawal bleeding with progesterone seen in otherwise amenorrhoeic woman due to	Anovulation
A patient with amenorrhea had bleeding after giving a trial of progesterone	Sufficient estrogen, Normal ovarian function, Intact endometrium, Intact pituitary axis
Child with primary amenorrhea with negative progesterone challenge test but positive combined progesterone and estrogen test	Prolactinoma
6 year amenorrhea and galactorrhoea. Increased prolactin. CT likely to reveal	Pituitary adenoma
Lactational amenorrhea due to	Prolactin induced inhibition of GnRH
MC cause of primary amenorrhea	Ovarian dysgenesis
Primary amenorrhea is defined as	No menstruation till the age of 18 years
Galactorrhoea and amenorrhea in P2 women for 1 year	Pituitary tumor
Hypothalamic amenorrhea	Kallman syndrome
Primary amenorrhea with anosmia	Kallman syndrome
Primary amenorrhea	Absence of menarche by 14 years without secondary sexual characters and by 16 years with secondary sexual characters
Primary amenorrhea	No menstruation even after 15 years of age
25 year female, height of 58 inches, primary	Loss of oocytes

amenorrhea, FSH increased, ovarian microscopy reveals	
NOT a primary amenorrhea	Sheehan syndrome
NOT associated with primary amenorrhea	Stein leventhal syndrome
NOT a cause of Primary amenorrhea	Ashermann syndrome
MC cause of secondary amenorrhea in India	Endometrial tuberculosis
Secondary amenorrhea is seen in	Asherman syndrome, PCOD, Thyroiditis
Positive progesterone challenge test in a patient with secondary amenorrhea	PCOD
In a case of secondary amenorrhea who fails to get withdrawal bleeding after taking E and P, fault lies at the level of	Endometrium
Progressive secondary amenorrhea	Psychosomatic cause
Lady presented with secondary amenorrhea 6 months after having abortion, FSH 6 mIU/ml	Uterine synechia
Asherman syndrome	Amenorrhea
Recovered from severe PPH, failure of lactation and menstruation.	Increased excretion of Na+
Failure of lactation after delivery, empty sella	Sheehan syndrome
NOT used for Sheehan syndrome	Insulin

CRYPTOMENORRHEA

Cryptomenorrhea due to	Imperforate hymen
13 year old, pain in lower abdomen, cyclical pain for last six months, NOT attained menarche yet, tense bulge in region of hymen	Imperforate hymen
Acquired cryptomenorrhea	Conisation, Trachelorrhaphy, Amputation of cervix

OLIGOMENORRHEA

Oligomerrhoea means	Infrequent menses
20 ml menstrual loss every 35 days	Oligomenorrhea

POLYMENORRHEA

Menstruation every 15 days	Polymenorrhea
Polymenorrhea means	Menses < 21 days, DUB
45 year woman polymenorrhea for 6 months. First line of Management is	Dilatation and curettage

MENORRHAGIA

Menorrhagia is	Increase in duration and increased blood loss
Menorrhagia means	>80 ml
Commonest condition associated with menorrhagia	Fibroid
MC cause of puberty menorrhagia	Anovulation

Puberty menorrhagia treated by	Progesterone, Progesterone + estrogen, GnRH analogues
Puberty menorrhagia is treated with	OCP, Estrogen, Progesterone
Drug of choice for pubertal menorrhagia	Progesterone
Primary treatment of puberty menorrhagia in a 16 year old female with Hb 3 gm%	*Estrogen and progesterone with blood transfusion*
Cava term balloon therapy is used in	Menorrhagia
30 year P2 with hypertension menorrhagia. Best treatment	Mirena
IUCD of choice in lady presenting with menorrhagia	Copper T
Treatment of choice in IUCD induced menorrhagia	Traenexemic acid
NOT indicated in menorrhagia	Clomiphene
NOT an evidence based treatment of menorrhagia	Ethamsylate
Misoprostol NOT effective in	Menorrhagia
Treatment of menorrhagia NOT supported by evidence	Ethamsylate

GNRH ANALOGUE

GnRH analogue used in	Prostate ca, Fibromyoma uterus Precocious puberty, Endometriosis, Menstrual disturbances
GnRH analogue given in	Ca prostate, fibroadenoma, precocious puberty
GnRH analogue NOT used in	Endometrial carcinoma, hyperprolactinemia
GnRH analogues are contraindicated in	IVF techniques

METORRHAGIA

Metorrhagia is produced by	IUD, Carcinoma endometrium, Fibroid polyp
45 year female with dysmenorrhea and menorrhagia	Endometriosis, Fibroid
Metorrhagia is NOT produced by	Intramural fibroid
In pictorial blood loss chart, heavy bleeding is	*>100 ml*

METROPATHICA HEMORRHAGICA

Metropathica hemorrhagica is associated with	*80% of DUB*
In a perimenopausal women, amenorrhea for a period of time, was followed by sudden bleeding per vaginum	*Metropathia hemorrhagica*
Swiss chess pattern of endometrium	Metropathia hemorrhagica
Cystoglandular hyperplasia	Metropathia hemorrhagica
In cystoglandular hyperplasia	Amenorrhea
Metropathic hemorrhagica best treated by	Progesterone
Metropathica hemorrhagica is treated with	Hormones, D&C ,Hysterectomy

40 year parous woman Metropathica hemorrhagica	Progesterone
Treatment of Metropathia hemorrhagica in a middle aged women who has completed her family	Hysterectomy

DYSMENORRHEA

Unilateral dysmenorrhea	One horn of malformed uterus, Endometriosis with unilateral distribution, Small fibroid at uterotubal junction
Pain before onset of menstruation which relieves after beginning of menstruation	Congestive dysmenorrhea
Spasmodic dysmenorrhea is commonly seen in	Young adults
Spasmodic dysmenorrhea	Submucous fibroid
NOT true about spasmodic dysmenorrhea	Pain after 3rd day of menstrual period
NOT true about spasmodic dysmenorrhea	Pain persists for 2-3 days
Used for spasmodic dysmenorrhea	Ibuprofen, Mephenamic acid, OCP
Spasmodic dysmenorrhea is treated by	Dilatation of cervix, Hormones, Presacral neurectomy
Cause of secondary dysmenorrhea in young female	Tuberculosis, Endometriosis, Subserous fibroid
Secondary dysmenorrhea is a characteristic symptom of	Endometriosis, Salpingitis, Myoma
Investigation of choice for lady with dysmenorrhea with cyclical pain and infertility	Diagnostic laparoscopy
First line drugs in primary dysmenorrhea	*NSAIDs*

DYSFUNCTIONAL UTERINE BLEEDING

Irregular shedding due to	Overactivity of corpus luteum
Halban's disease due to	Persistent corpus luteum
Halban's disease is	Irregular shedding
Irregular ripening is due to	Defective Corpus Luteum
Causes of DUB	Irregular ripening, Irregular shedding
Best example for DUB	Hypothyroidism
DUB defined as abnormal bleeding due to	Anovulatory cycle
DUB is associated with	Metropathica hemorrhagica
In DUB	Increased estrogen
Absence of cork screw glands and swiss cheese pattern is associated with	*Anovulatory DUB*
NOT a feature of DUB	Tender uterus
45 years DUB. Thickness of endometrium is 8 mm. next step in management	Histopathology
MC histological finding of endometrium in DUB	Hyperplastic
Initial treatment of DUB in young female	Oral pills
Progesterone with greatest hemostatic effect used in DUB	Norethisterone
45 year woman with DUB for 6 months. Best management	OCP for 6 months
Treatment of DUB in young female	Hormones
Treatment of 32 years multipara with DUB	Progesterone, Endometrial ablation
SERM used for treatment of DUB	*Ormelaxifene*

Trans cervical endometrial resection is used in	DUB
Contraindications for Endometrial ablation	Suspected genital malignancy, Women who wish to preserve fertility, Expectation of amenorrhea
NOT a treatment of DUB	Ovariotomy

MENOPAUSE

Average age of menopause	*47.5 years*
35 year woman no menses for 4 months. Low estradiol and high FSH and LH	Premature menopause
Menopausal hormone change	Gonadotropin increased, estrogen decrease
FSH level in premature menopause	40 IU/ml or more
15 years after menopause, normal ovarian volume on USG should NOT be more than	2 ml
NOT a complication of menopause	Supracondylar fracture of humerus

POSTMENOPAUSAL BLEEDING

Commonest cause of postmenopausal bleeding in India	Ca cervix
Cause of post menopausal bleeding	Granulosa cell tumor
Post menopausal bleeding	Carcinoma cervix, Carcinoma body of uterus, Carcinoma vagina
Postmenopausal bleeding	Bleeding after 1 year of amenorrhea in menopausal age
NOT a cause of postmenopausal bleeding	Carcinoma IN SITU cervix, CIN
NOT an usual cause of postmenopausal bleeding	Endometriosis
First investigation on post menopausal bleeding	Endometrial biopsy
45 year postmenopausal woman presents with vaginal bleeding. Transvaginal ultrasound reveals endometrial thickness of 8 mm. next step	Histopathological examination
50 year female, attained menopause with one episode of bleeding per vaginum	Assess for H/o HRT, Pap smear, Endometrial biopsy
Evaluation of patient with post menopausal bleeding	Pap smear, USG, Endometrial biopsy, D&C

HORMONE REPLACEMENT THERAPY

Estrogen replacement for post menopausal symptoms cause increase in	Triglyceride, Bone mass
Postmenopausal osteoporosis	Decreased vitamin D, Decreased serum calcium
Non hormonal drug to prevent post menopausal osteoporosis	Alendronate
Raloxifene	Reduces fracture rate, Avoids endometrial hyperplasia, Increases incidence of venous thrombosis, No increase in incidence of breast carcinoma
Underwent hysterectomy for DUB, physical examination normal. X ray shows osteroporosis. Treatment of choice	Estrogen

NOT true about HRT	Increases risk of endometrial cancer
HRT NOT given for	CAD prevention
HRT is NOT useful in	Coronary heart disease
Absolute contraindication for hormone replacement therapy	Thrombosis
Absolute contraindications for hormone replacement therapy	*Estrogen dependent tumors, undiagnosed vaginal bleeding, active severe liver disease, malignant disease*
Hot flashes are due to	*Inappropriate stimulation of body's heat releasing mechanisms by thermoregulatory centres in hypothalamus*
Premature menopause in turner's syndrome patients is not associated with hot flashes because	*They do not have high enough estrogen to sensitize thermoregulatory centres because they are hypoestrogenic*
Responsible for menopausal hot flushes	*LH surge*
Hot flushes usually subside by	*2-3 years*
With HRT, hot flushes subside by	*6-8 weeks*
Only FDA approved non hormonal treatment of hot flushes	*Paroxetine*
Hot flush can be relieved by	Ethinyl estradiol, Androgen, Isoflavones, Tibolone
Decrease hot flushes in woman	Androgen, isoflavones, Tibolone
Hot flush relieved by administration of	Ethinyl estradiol
Does NOT decrease hot flush	Raloxifene

PCOD AND HIRSUTISM

PCOD

PCOD	Increased LH, Infertility, Associated with abnormal glucose tolerance, Testosterone increase, FSH normal to low
PCOD	Secondary Amenorrhea, Alopecia, Theca cell hyperplasia, Hyperandrogenism, Anovulation, Hirsutism, Increased DHEAS
Criteria for PCOD	*Rotterdam criteria, ESHRE criteria*
Rotterdam criteria of PCOD does not include	Hirsutism
Obese woman presenting with oligomenorrhea, infertility and hirsutism	Polycystic ovaries
Weight gain, oligomenorrhea, hirsutism	PCOD
6 week amenorrhea with ovarian cyst, proper management	Ovariotomy at second trimester
In PCOD	Ovary on USG may be normal
PCOD associated with	Endometrial hyperplasia
Endometrial hyperplasia is seen in	PCOD
Hyperstimulation in PCOD is due to hypersecretion of	LH
Feature of PCOD	Increased LH, Increased estrogen, Increased androgen,

	Low FSH
Decreased in PCOD	*Low FSH, low estrogen*
Persistent untreated anovulation does NOT lead to	Ovarian carcinoma
NOT associated with PCOD	Osteroporosis
NOT true about PCOD	Markedly increased prolactin
NOT true about syndrome X	Hypoinsulinemia
NOT a long term risk in PCOD	*Carcinoma ovary*
Hormone raised on PCOD	LH
Time for estimation of FSH and LH in PCOD	*Preovulatory (8 – 10)*
CA 125 NOT elevated in	PCOD
First step in management of hirsutism due to PCOD	OCP
Treatment of PCOD	Clomiphene, Gonadotrophin, Wedge resection
Treatment of hirsutism lady with PCOD	Ethinyl estradiol + desogesterl
Drug of choice for PCOD	Metformin
NOT used in polycystic ovarian syndrome	*Dexamethasone*

HIRSUTISM

HAIR-AN syndrome	*Hyperandrogenism, Insulin resistance, Acanthosis nigricans*
Vellous hair	*Androgen dependent hair*
Hirsutism is associated with	Phenytoin, Danazol, Norethindrone
Hirsutism producing drugs	Corticosteroids, Minoxidil, Phenytoin
Hirsutism caused by	Arrhenoblastoma
Non androgenic drugs causing hirsutism	Phenytoin, Minoxidil, Cyclosporine
Hirsutism caused by	Minoxidil
Does NOT cause hirsutism	Flutamide
Does NOT cause hirsutism	Heparin
NOT an adverse effect of tacrolimus	Hirsutism
Ovarian cause of hirsutism	PCOD
Hirsutism is NOT caused by	Hyperthyroidism
MC cause of Hirsutism	PCOD
Commonest cause of hirsutism in teenage girl	PCOD
Ferriman Gallway	**Hirsutism score scale**
20 year old girl rapidly developing hirsutism and amenorrhea with change in voice. Blood test done for	Testosterone
Best investigation for rapid onset hirsutism and amenorrhea in 16 years girl	Testosterone estimation
Best Investigation for Rapid Onset Hirsutism	Testosterone
Used in management of hirsutism	GnRH, Spironolactone
30 year, female, hirsutism, infertility and obesity, diagnosed to be PCOS, NOT the treatment	Tamoxifen
Treatment of Hirsutism	Eflornithine (Antihelminth inhibiting Ornithine Decarboxylase)

DANAZOL

Danazol is	Androgen derivative
Danazol is used in treatment of	Cyclical mastalgia
Danazol NOT used for	Hirsutism
Danazol NOT used in	DUB
Danazol NOT used in treatment of	Pituitary adenoma
Side effects of danazol	*Increased hepatic enzymes, adverse lipid profile*

ENDOMETRIOSIS AND ADENOMYOSIS

ENDOMETRIOSIS

Endometriosis explained by	Sampson's implantation theory, Metastatic epithelium, Histiogenesis by induction, Coelomic metaplasia theory
Supports for retrograde menstruation theory	*Endometriosis is most often in dependent portion of pelvis, incidence is higher in women with obstruction of outflow of menstrual cycle, blood flow from fimbriated ends of fallopian tube is visualized through laparoscopy, endometriosis is more common in women with shorter menstrual periods*
According to Sampson's theory, Endometriosis is caused by	Transmembrane permeation
Celomic metaplasia theory of endometriosis in	*Mullerian agenesis*
Sites of endometriosis difficult to treat medically	Ovary, bladder, bowel
Endometriosis mostly seen in	Nulliparous
Chocolate cysts are lined by	Columnar epithelial cells
Young female dysmenorrhea and infertility	Endometriosis (Painful)
35 year woman , infertility and palpable pelvic mass, CA-125 is 90 mIU/mL	Endometrioma
Endometriosis	MC in 3rd of 4th decade, Premenstrual spotting, True cyst, First degree relative seen
Endometriosis	Contains tarry brown fluid, Can involve lung and pleura, Ovary is the commonest site, Hormone dependent condition
Scar endometriosis occur in	Classical caesarean section, Hysterectomy, Episiotomy
Endometriosis commonly associated with	Chocolate cyst of ovary
Endometriosis	Painful
Pain in endometrium correlates with	Depth of invasion
Powder burns	Endometriosis
Stromal endometriosis behaves like	*Malignancy*

Pseudoxanthoma cells are seen in	*Endometriosis*
Extensive endometrisois	Fulgration of endometrial deposits
Cause of infertility in endometriosis	Anovulation
Best investigation to establish diagnosis of endometriosis	Laparascopy
Laparascopy detects	Endometriosis
Diagnosis of endometriosis is confirmed histologically by identifying extragenital implants containing	Endometrial glands and Stroma
Treatment of endometriosis	Progesterone, OCP, Danazol, GnRH
Treatment of endometriosis	Medroxyprogesterone acetate, OCP, Danazol
Treatment of endometriosis in infertile female	Clomiphene
Drug of choice for endometriosis	Medroxyprogesterone
Best treatment for endometriosis in young woman	*Danazol*
NOT used in treatment of endometriosis	Tibolone
NOT a treatment of endometriosis	Estrogen
Surgery of choice for endometriosis interna	Total hysterectomy

ADENOMYOSIS

Adenomyosis	Presents with menorrhagia, dysmenorrhea and enlarged uterus
Treatment of adenomyosis	Total hysterectomy
Definite treatment of adenomyosis	Hysterectomy
No role in management of adenomyosis	*Uterine artery embolisation*

INFECTIONS OF FEMALE GENITAL TRACT

GENERAL FEATURES OF INFECTIONS OF FEMALE GENITAL TRACT

Cystitis is commonly caused by	E.coli
Bacterial vaginitis (hemophilus vaginitis, anaerobic vaginitis)	**Metronidazole**
Senile vaginitis due to	Estrogen deficiency
Drug of choice in senile vaginitis	Estrogen
Treatment of senile vaginitis	Estrogen therapy and colposcopy
Blebs of vaginitis emphysematosa	CO2
Cervicitis is caused by	Staphylococcus, Chlamydia, N.gonorrhoea
MC cause of acute cervicitis	Gonococcus
Most constant and only symptom of cervicitis	Leucorrhoea
Surest sign of salpingitis	Seropurulent discharge from fimbrial part of tube
Commonest presenting complaint in gynecology department	Leucorrhoea
Syndromic approach in reproductive tract infections	Diagnosis of exact disease is NOT relevant, Important part of family health awareness campaign

DD for differential diagnosis of lump in right fornix	Ovarian cyst, Hydrosalpinx, Appendicular mass
Diagnosis of 6 year old girl with vaginal spotting	Foreign body
Multiple contacts presenting with growth on vulva	Condyloma acuminate
Cut off for Asymptomatic Bacteriuria	>10^5/ml
NOT sexually transmitted	Echinococus

PELVIC INFLAMMATORY DISEASE

MC cause of PID in virgin girl in India	Tuberculosis
PID is caused by	Chlamydia trachomatis
NOT a cause of PID	Schistosomiasis, Crohn's disease
Pelvic inflammatory occurs least common with	Condom
MC presentation of PID	Backache
PID due to tuberculosis	Associated with infertility, mycobacterium can be grown on menstrual blood, ectopic pregnancy is common
PID can cause	Dysmenorrhea, Menstrual symptoms
NOT associated with chronic PID	Nausea
Diagnosis of PID by	Pain, fever, cervical tenderness
40 year females, mass in pelvis detected clinically, NOT done immediately	Laparoscopy
During laparoscopy preferred site for obtaining cultures in a patient with acute pelvic inflammatory disease	Fallopian tubes
Laparotomy for pelvic inflammatory disease is indicated in	Intestinal obstruction, Ruptured tuboovarian abscess, Pelvic abscess
Acute PID treated by	Drainage of TO mass, IV antibiotics, Laparascopic exploration
OPD management of PID	**Ceftriaxone, doxycycline, Metronidazole**

TRICHOMONAL VAGINITIS

Trichomonas vaginalis	Flagellated parasite, Pruritis, Sexually transmitted, Foul smelling vaginal discharge
Twitching motility	*Trichomonas*
Trichomonas vaginalis	**Pear shaped**
Cyst form NOT seen in man in	Trichomonas
MC genital infection in females	Trichomonas vaginitis
Trichomonas infection common during	Child bearing age
Trichomonas vaginalis is associated with	Greenish discharge
Strawberry vagina is seen in	Trichomonas vaginalis
Frothy discharge with red ulceration in vagina is seen with	Trichomonas
Pruritis association of vaginal discharge	Trichomonas vaginitis
Trichomonas vaginitis is associated with	Strawberry cervicitis, Diabetics
Culture medium for trichomonas	*Kupferbery STS media, Diamond media*
Drug of choice for Trichomoniasis	Metronidazole single dose
Tetracyclines are ineffective against	Trichomonas
Treatment of both partners is NOT needed in	Trichomonas vaginalis

CHLAMYDIAL INFECTION OF FEMALE GENITAL TRACT

Non gonococcal urethritis is caused by	Chlamydia
Most sensitive method for detecting cervical Chlamydia trachomatis	PCR, Culture on Mc Coy cells
Can NOT be detected by wet film	Chlamydia
Drug of choice for Chlamydia in pregnancy	Azithromycin
Chlamydia found on endocervial biopsy	Azithromycin and contact tracing

BACTERIAL VAGINOSIS

Causative organism of bacterial vaginosis	Mycoplasma hominis, Mobiluncus, Hemophilus vaginalis
Cause of bacterial vaginosis	Polymicrobial cause
NOT a cause of bacterial vaginosis	Chlamydia
Bacterial vaginosis	Grey and white discharge, Associated with vaginal Ph, Fishy discharge, Gardenella vaginalis, Clue cells, oral metronidazole
Amsel criteria for	Bacterial vaginosis (3 out of 4)
Nugent scoring for	*Bacterial vaginosis*
Criteria for diagnosis of gardenella	pH more than 4.5, clue cells, white discharge, fishy odour when with 10% KOH
Diagnosis of bacterial vaginosis	Abundance of gram variable coccobacilli, absence of lactobacilli, presence of clue cells
Gas liquid chromatography is used to diagnose	Bacterial vaginosis
Whiff test for	Bacterial vaginosis
Treatment of partner is NOT required for infection with	Gardenella
Drug of choice for Bacterial vaginosis	Metronidazole

GONOCOCCAL INFECTION

Features of Gonorrhea	Discharge, Reddened lips of vulva and vagina, 50% asymptomatic, Excessive vaginal discharge, Perihepatitis
Asymptomatic carriage of gonococcus	Endocervix
Gonococcal vaginitis is common in	Infants
Most likely to show gonococcus in female	Cervix
Part of genital tract in adult female NOT affected by gonococcal infections	Vagina
Gonococci has affinity for	Columnar epithelium
Best site to obtain a swab in asymptomatic gonorrhea	Endocervix
Pap smear NOT useful in diagnosis of	Gonorrhea

TUBERCULOUS INFECTION OF FEMALE GENITAL TRACT

MC cause of tubal block in India	Tuberculosis
MC site of genital tuberculosis	Fallopian tube
MC route of transmission of endometrial tuberculosis	Hematogenous spread
Commonest type of genital tuberculosis	Endosalpingitis
Tuberculosis of female genital tract commonest in	20 -30 years
Tuberculosis of female genital tract invariable involves	Tubes
Probable cause of menorrhagia not controlled with hormonal treatment in adolescent girl	Tubercular endometritis
Patient presents with infertility without significant clinical problem. Most likely diagnosis	TB endometrium
Beaded appearance of fallopian tube with clubbing of fimbrial end and ampulla	Tuberculosis
Bead like fallopian tube, clubbing of ampulla	Mycobacterium tuberculosis
Tobacco pouch appearance of tubes	TB salpingitis
Violin string adhesions	**Perihepatitis due to salpingitis**
NOT true about genital TB	Sterility is common presenting symptom
Salpingitis and endosalpingitis is best confirmed by	Hysteroscopy and laparascopy
Endosalpingitis is best diagnosed by	Laparoscopy
HSG finding of tuberculous salpingitis	Bilateral corunal block with extravasation of dye, Rigid non peristaltic lead pipe appearance, Tobacco pouch appearance
Primigravida 1st trimester sputum positive for acid fast bacilli	Category I DOTS
Commonest complication of pregnancy after complete treatment of genital tuberculosis	Ectopic pregnancy

SYPHILIS

Two symmetrical ulcers with firm base on vulva	Chancre

CANDIDIAL INFECTION OF FEMALE GENITAL TRACT

Vulval mycosis is seen in	Immunodeficiency, DM
Factor NOT predisposing to Vaginal candidiasis	IUCD usage
MC fungal infection in 3rd trimester of pregnancy	Candida
Condition associated with vaginal pH 4	Vaginal candidiasis
Thick curdy white discharge	Candidiasis
Vaginal candidiasis	Cottage cheese like secretion, Pruritis, Buds and hyphae in KOH preparation
Systemic infection associated with vulvovaginal candidiasis	Fluconazole
Thick curdy white discharge, best treatment	Miconazole

INFERTILITY

GENERAL FEATURES OF INFERTILITY

Common causes of infertility	Chlamydia, Gonorrhea, Mycoplasma
Infertility is seen in	Fibroid, Endometriosis, Adenomyosis, PID
Declared infertile if no offspring for	One year
Fallopian tube dysmotility	Kartagener syndrome
Most reversible form of infertility	Anovulation
Infertility by Chlamydia is due to	Salpingitis
TB endometritis cause infertility by	Destroying endometrium, Tubal blockade
Cause of luteal phase defect	Progesterone inadequately secreted
Histological criteria for luteal phase defect	*Noye's criteria*

MALE INFERTILITY

Aspermia	Absence of semen
Absence of sperms in semen	Azoospermia
Incidence of Azoospermia	5%
Prolonged administration of testosterone in man causes	Azoospermia
Increased FSH level in azoospermic males	Testicular atrophy
Asthenospermia	Reduction in motility of sperms
Semen sample reveals 15 million sperms, 60% normal morphology, 60% motile. volume 2 ml	Oligospermia
Oligospermia means	Sperm count of less than 20 million
Sperm count < 20 million per ml is termed as	Oligospermia
Drugs causing oligospermia	Estrogen, cyclophosphamide, sulphasalazine
Drug causing oligospermia	Leflunomide
Oligospermia caused by	Methotrexate
Drug causing oligospermia	Sulphasalazine
Fructose deficient in ejaculation is	Absence of seminal vessels
A male with azoospermia found to have normal FSH, testosterone levels and normal size testis.	Vas obstruction
Absence of fructose in semen indicate	Obstruction of seminal vesicle
Antisperm antibodies usually present in	Cervix
Infertility is common in sertoli cell only syndrome because	There is no germ cell in this condition
WHO criteria, minimum normal sperm count	20 million/ml
Normal sperm motility	*25% of grade A sperms are motile or 50% of both grade A and grade B sperms are motile*
NOT an essential criteria according to WHO for normal semen analysis	Volume>1 ml
Couple on treatment for infertility. Woman normal. Semen 0.8 ml. On 2 repeated samples. Fructose	Transrectal USG for any duct obstruction

negative. No sperms on examination under microscope. next step of management	
Primary infertility, low volume, fructose negative, azoospermia, most useful imaging modality	Transrectal ultrasound
Best indication for testicular biopsy in male	Azoospermia
25 year old married male presents with infertility. Undergone retroperitoneal lymphnode dissection at age of 15 years for embryonal carcinoma of right testis. Semen analysis no sperm no fructose. biopsy normal spermatogenesis	Microtesticular aspiration and intracytoplasmic injection
Best specimen for semen analysis	After a period of abstinence NOT less than 3 days by masturbating near the labarotory
Aspiration of sperms from testis is done in	TESA
Sperm retrieval technique in gonadal failure	*Testicular sperm extraction (TESE)*
Features of Obstructive azoospermia	Normal FSH and normal LH
In azoospermia, diagnostic test which can distinguish between testicular failure and obstruction of vas	Estimation of FSH level
Semen analysis of a male of an infertile couple shows absence of spermatozoa but presence of fructose	Block in efferent duct system
Test for detecting antisperm antibodies	Post coital test
PESA/MESA helpful in	Post testicular azoospermia
Life of preferred semen for artificial insemination	10 years
In semen banks, semen is preserved at low temperature using	Liquid nitrogen

ASHERMAN SYNDROME

Asherman syndrome due to	Post abortion curettage
Risk of asherman syndrome is highest if D&C done for	Postpartum hemorrhage
Secondary amenorrhea after abortion due to	Asherman syndrome
Asherman syndrome is associated with	*Hypomenorrhea*
Asherman syndrome diagnosed by	Hysteroscopy
Investigation of Choice for Endometrial Synechiae	Hysterosalpingography
Asherman syndrome can NOT be diagnosed by	Endometrial culture
Treatment of asherman's syndrome	D&C

INVESTIGATIONS FOR INFERTILITY

Fern test due to	Presence of NaCl under estrogenic effect
Spinbarkeit of cervical mucus is maximum at	Ovulatory phase
Method of choice to look for ovulation after being treated with clomiphene	Serial ultrasound
Serum progesterone testing done on	Day 21
Endometrial biopsy taken on day	23-26
Right time for endometrial biopsy	20-22
Best time of menstrual cycle for endometrial biopsy in infertility investigation	Just near date of next menstruation

Best method for measuring graffian follicle maturation	Transvaginal ultrasound
NOT a test for ovulation	Hysterosalpingogram
Luteal phase defect best diagnosed by	Endometrial biopsy
Cervical hostility is tested by	Spinbarkeit, Postcoital test, Miller kurzole test
Post coital test for	Cervical factor
Post coital test done for	Cervical receptivity
Post coital test is done on	*11 – 13 days (1-2 days before ovulation)*
Post coital test showing non motile sperms in cervical smear and motile sperms from posterior fornix suggest	Immunological defect
Post coital test does NOT detect fallopian tube	Block
Post coital test does NOT detect	Fallopian tube block
Sion test is for	Tubal patency
Sion test	Sonosalpingography
Contrast used in Hysteron Contrast Sonography (HYCOSY)	*Galactose solution with galactose granules*
Tube testing is done under	No anesthesia
Obsolete method for testing tubal patency	Rubin's test
Test for tubal patency	Hysterosalpingography, Laparoscopy, USG
Tubal patency test done radiologically after administering contrast media	Hysterosalpingogram
Best investigation for tubal patency	Hysterosalpingogram
Hysterosalpingography should be done	Just before ovulation
Infertility with bilateral tubal block at cornua. Next method of investigation	Laparascopy and hysteroscopy
Best investigation for tubal patency	Laparascopic chromotubation
Best test for diagnosis of tubal patency	Laparascopy
Accurate method for testing tubal patency	Chromotubation
Sonosalpingography is done for	Detecting tubal patency
Tubal patency test is done on	*Day 10*

MANAGEMENT OF INFERTILITY

In an infertile woman, endometrial biopsy reveals proliferative changes, hormone preferred	MDPA
MC indication of in vitro fertilization	Fallopian tube abnormality
MC indication of IVF	Complete tubal block
In vitro fertilization indicated in	Tubal pathology
Management of infertility in bilateral corunal block	*In vitro fertilization*
IVF and embryo transfer is done in infertility due to	Tubal cause
In vitro fertilization indicated in	Tubal block
Intrauterine insemination means implantation of	Washed semen
Homologous artificial insemination used in females	Cervical factor
Artificial insemination with husband's semen NOT indicated in	Azoospermia
NOT an assisted reproduction technique	Artificial insemination
Antihormonal substance used to induce ovulation	Clomiphene
Drugs used for ovulation induction	Clomiphene, Gonadotrophin, Letrozone
Ovulation induction can be done by	*Recombinant FSH*

Pituitary ablation to induce ovulatory cycle	*Human or recombinant menopausal gonadotrophin following by HCG*
A patient treated for infertility with clomiphene citrate presents with sudden onset of abdominal pain and distension	Hyperstimulation syndrome
Ovarian hyperstimulation syndrome	*Associated with massive stromal edema of ovary, enlarged ovaries may be prone to torsion, patients with OHSS usually have enlarged ovaries (> 10 cm) that may contain hypoechoic areas*
NOT an ovulation inducing agent	Chlormadinone
Drug NOT useful in induction of ovulation	*Progesterone*
NOT a treatment of cervical infertility	Clomiphene citrate
NOT used in treatment of infertility	Prolactin

CLOMIPHENE CITRATE

Clomiphene citrate	Antiestrogen
Enclomiphene is	Antiestrogenic
Anti estrogen	Clomiphene
Clomiphene citrate indicated in	Stein Levinthal syndrome
Clomiphene citrate is given on	*Days 2,3,4,5 and 6. Maximum dose is 150 mg and maximum duration is 1 year*
Clomiphene citrate	Causes ovarian hyperstimulation syndrome, Used for ovulation induction, Multiple pregnancies seen in 3-8%, Enclomiphene has antiestrogenic effect
Clomiphene citrate	Binds estrogen receptor and prevents negative feedback at hypothalamus
Clomiphene on FSH and LH secretion	*Increases*
Clomiphene therapy is most specific for ovulation in	Hypothalamic gonadism
Clomiphene acts by removing inhibitory effect on E2 on	Gonadotrophin release from pituitary
Most serious complication of clomiphene therapy	Hyperstimulation syndrome
Side effects of clomiphene citrate	Alopecia, Hyperstimulation syndrome, Hot flushes
NOT a side effect of clomiphene citrate	Teratogenecity
NOT true about clomiphene citrate	Chance of pregnancy is three fold as compared to placebo

UROGYNAECOLOGY

GENERAL FEATURES OF UROGYNAECOLOGY

Ultrasound finding with adnexal mass is most suspicious of malignancy	*Several internal excrescences*
In a patient with urinary incontinence, cystomentogram is done to	*Determine if the patient has normal bladder sensation*

MC cause of genital fistula in India	Obstructed labor
70 year old female recurrent dysuria, urine routine and culture normal	Hormone replacement therapy
Clinically vesicovaginal and ureterovaginal fistula differentiated by	Methylene blue 3 swab test
NOT seen in ureteric fistula	Amenorrhea

UTERINE PROLAPSE

Sulci in anterior vaginal wall	*Submeatal sulcus, transverse vaginal sulcus, bladder sulcus, lateral vaginal sulcus*
Submeatal sulcus	*Above external meatus*
Transverse vaginal sulcus	*At the level of bladder neck*
Lateral vaginal sulcus	*Along arcus tendineus fascia pelvis*
Level of supports of vagina by	*De Lancey*
Most important structure in preventing uterine prolapse	Cardinal ligament, Uterosacral ligament
Main support of uterus is provided by	Cardinal ligament
Contents of Mackendrot ligament (sustentaculum of Bonney)	*Ureteric tunnel (tunnel of Wertheim), descending cervical artery, lymphatics, Frankenhauser plexus (sympathetic plexus)*
Anteversion of uterus maintained by	Uterosacral ligament
Retroversion of uterus prevented by	Uterosacral ligament
Sampson's artery in	*Round ligament*
Staging system for Pelvic organ prolapsed (POP)	*6 reference points*
Shaw classification for	*Uterine prolapse*
MC cause of genital prolapse	Cystocele
Uterine prolapse is due to loss of tone of	Mackendrot ligament
Birth trauma is a risk factor for	Prolapsed uterus
NOT a cause of uterine prolapse	Nulliparous
III degree prolapse	Cervix outside introitus
Cystocele formed by	Base of bladder
Cystocele is a defect in	*Pubocervical fascia*
Prevention of enterocele or vaginal prolapsed while performing vaginal hysterectomy aided by	Reattachment of Cardinal and uterosacral ligament to vaginal cuff
Urinary incontinence in prolapse due to	Stress incontinence
Urinary incontinence does NOT occur in	Rectovesical fistula
NOT a complication of prolapsed uterus	Ca cervix
Kiegel exercise should begin	During third trimester of pregnancy, Immediately after delivery
Cause of decubitus ulcer in uterine prolapsed	Venous congestion
Decubitus ulcer most commonly due to	Chronic venous congestion
Best way to treat decubitus ulcer	Reduction with tampon
Pessary is used for	Healing decubitus ulcer, Uterine prolapsed during pregnancy, Uterine prolapsed during lactation

Ring Pessary for Prolapse	Can be applied in Puerperium
Best management for 14 weeks pregnancy with third degree prolapsed	Ring pessary
Pregnancy with prolapsed	Pessary treatment
Genital prolapsed best repaired	6 months after childbirth
Fothergille repair also known as	Manchester operation
Combined name of Anterior Colporraphy and colpoperineorraphy	Manchester operation
Indication of Manchester operation in prolapse	Women of < 35 years
Treatment of 30 year multipara with uterine prolapse	Fothergille's repair with tubal ligation
28 year female P3, 2nd degree prolapse	Fothergill repair
NOT a step in Fothergill's operation	Plication of round ligament
A lady with prolapsed uterus, after fothergill repair present with	Cervical dystocis, Premature labor, PROM, Does NOT present with first trimester abortion
Sling operation is done for	Nulliparous prolapse
Young nulliparous woman with 3rd degree uterovaginal prolapsed without cystocele or rectocele. NO stress incontinence. Uterocervical length 3 inches	Sling operation
Treatment of choice for Uterine prolapse in nulliparous	Shirodkar sling operation
65 year P3 with complains of procidentia with diabetes and hypertension	Leforte repair
Treatment for Prolapse of pouch of douglas	Posterior colpoperineorraphy
Purandare cervicopexy is done in	Congenital prolapse of uterus
Treatment of Nulliparous prolapse	Cervicopexy
Ward Mayo operation indicated in	Procidentia

VESICOVAGINAL FISTULA

MC cause of VVF in India	Obstructed labor
MC type of urinary fistula	Vesicovaginal fistula
Vesicovaginal fistula after obstetric labor manifest	After 1st week
NOT true about VVF	*Amenorrhea*
Dye test, middle swab stained with dye	VVF
Most important step for diagnosis of suspected vesicovaginal fistula	Triple swab test
Most useful investigation for VVF	Cystoscopy
Patient with vesicovaginal fistula after abdominal hysterectomy Not responding to conservative treatment. most useful investigation	Cystoscopy
Best method for collecting urine for culture if vesicovaginal fistula	Foley's catheterization
Lady presented with VVF due to prolonged labour one year back on examination ectopic is found on interureteric bar close to the opening of right ureter. Treatment of choice	Transperitoneal transvesical fistula repair with reimplantation of right ureter
Important postoperative management of VVF	Continuous bladder drainage
After vesicovaginal fistula repair, bladder drainage done for	14 days
Surgeries for VVF	*Chassar Moir technique, Latzko*

	procedure, Sauzerisation
Chassar Moir technique	VVF
Surgical treatment of VVF best done with	Flap split method
Postpartum VVF best repaired after	3 months

URETEROVAGINAL FISTULA

Commonest site of surgical ureterovaginal fistula	Below uterine artery in Mackendrot ligament
Commonest site of obstetric injury leading to ureterovaginal fistula	Below cardinal ligament where uterine artery crosses
Continuous urinary dribbling ,burning micturition after hysterectomy	Ureterovaginal fistula
Dye filled into urinary bladder does NOT stain pad in vagina yet pad is soaked with clear urine	Ureterovaginal fistule
Upper most swab stained with urine NOT with dye, lower 2 swabs dry	Uretervaginal fistula
1 week after extended hysterectomy, leaks urine per vaginum, inspite of that she has to pass urine from time to time	Ureterovaginal fistula

URETHROVAGINAL FISTULA

Lower swab stained with dye	Urethrovaginal fistula

VESICOUTERINE FISTULA

Obstructed labor, delivered by LSCS. cyclical passage of menstrual blood in urine	Vesicouterine
Multipara with LSCS and cyclical hematuria	Vesicouterine fistula, Bladder endometriosis

RECTOVAGINAL FISTULA

Commonest cause of rectovaginal fistula	Improper repair of perineal tear
Patient of rectovaginal fistula is initially treated with	Colostomy

STRESS INCONTINENCE

Stress incontinence is a common symptom of	Prolapse of uterus
Stress incontinence caused by	Procidentia
Post menopausal female with dribbling urine	Stress incontinence
Bonney's test for	SUI
Stress incontinence	Middle swab and lower swab stained with dye
Bead chain cystogram is used in diagnosis of	Stress incontinence
Q tip test for	Stress incontinence

Clinical test for stress urinary incontinence	Methylene blue 3 swab test
Recommended non surgical treatment of stress incontinence	Pelvic floor muscle exercise
Kelley's suture done in	Stress incontinence
Kelley plication operation done in	Stress incontinence
Surgery for stress incontinence with highest success rate	Tension free vaginal taping
Treatment of choice for genuine stress incontinence	Tension free vaginal taping
Surgery for stress incontinence with long term maximum success rate	Burch coloposuspension
Treatment of genuine stress incontinence	Anterior colporrhaphy, Colposuspension, Pelvic floor exercise, Sling operation
Marchetti operation for stress incontinence	Retropubic pubocervix operation
Marshall marchetti krantz surgery for	Stress incontinence
Disadvantage of Marshall Marchetti Krantz for SUI	Osteitis pubis
Stress incontinence is best corrected by	Bladder neck repair
Surgery for stress incontinence having highest success rate at the end of 5 years	*Burch colposuspension*
Surgery for stress incontinence with maximum long term cure rate	*Vaginal sling operation*
NOT a procedure for Stress incontinence	Wertheim's operation

URGE INCONTINENCE

Incontinence in elderly female commonly due to	Detrusor instability
Etiology of Urge incontinence	Detrusor instability
Management of urge incontinence	*Augmentation cystoplasty*

RETROVERTED UTERUS

Cause of retention of urine in reproductive age group	Cervical fibroid, Retroverted gravid uterus, Severe UTI
Retroverted uterus	Associated with endometriosis, Cause of infertility, Causes menorrhagia, Associated with PID
Genuine symptom in retroverted uterus with prolapsed ovaries	Dyspareunia
Drug used for treatment of dyspareunia	*Ospemifene*
Associated with incarcerated retroverted gravid uterus	Abortion, anterior sacculation, Urinary retention
Retroversion of urine in a pregnant woman with retroverted uterus	12-16 weeks

VAULT PROLAPSE

Incidence of Vault prolapse	3-6 per 1000
Best management of vault prolapse	Sacral colpopexy

URETER AND BLADDER INJURY

MC cause of bladder injury occurring during postoperative period	Laparasopic
Site of bladder injury in abdominal hysterectomy	Posterior wall
Most reliable investigation for bladder injury	Retrograde cystogram
Boari operation	Bladder flap
Commonest site of injury to ureter in hysterectomy	Where it enters pelvis
MC site of injury to ureter	Vesicoureteric junction
MC complication after radical hysterectomy	Ureteral injury
Maximum chance of ureteric injury with	Wertheim's hysterectomy
Commonest surgery causing ureteric injury	Hysterectomy
MC site of ureteric injury while doing hysterectomy at the time of dividing infundibulopelvic ligament	*At the brim*
Inadvertent surgical occlusion of ureter leads to	Complete renal atrophy, Hydronephrosis
If there is marked loss of length of ureter in ureteral damage repairing is preferably done by	*Transureteroureterostomy*

BREAST

ANATOMY OF BREAST

Blood supply of breast	Internal thoracic artery, Lateral thoracic artery, Intercostals artery, Internal mammary artery, Thoracoacromial artery, Superior epigastric artery
Blood supply to breast is NOT by	Thoracodorsal artery
Lymphatic drainage of breast	Axillary, Supraclavicular, Internally mammary
Axillary lymph nodes	*Level I – lateral to pectoralis minor, level II – deep to pectoralis minor, level III – medial to pectoralis minor*
Terminal axillary lymph node	Apical
All quadrants of breast drains into	Axillary and parasternal node
In breast, cooper's ligament extends from subcutaneous tissue to	Pectoral fascia

LESIONS OF BREAST

Risk factor for breast carcinoma	*Late menopause*
Predisposing factors of carcinoma syndrome	*Lynch syndrome, Hoderon syndrome*

SBLA syndrome	*Sarcoma, breast and brain tumor, lung carcinoma, laryngeal carcinoma, leukemia, adrenal cortical carcinoma*
Decreases the risk of ca breast	*Radiation therapy for ca cervix*
Does NOT decrease the risk of breast carcinoma	*Breast feeding*
Index lesion of carcinoma breast greater than 0.5 cm	*Metastatic implantation*
Minimal breast disease	*LCIS, DCIS, minimally invasive carcinoma < 0.5 cm*
Type of mammary DCIS most likely to produce palpable abnormality	Comedo DCIS
Comedo DCIS is associated with	*Poor prognosis*
Comedo growth pattern is seen in	Ductal carcinoma in situ
Mammography pattern in DCIS	*No mammography pattern*
Investigation of choice for ductal carcinoma in situ	*MRI*
Most appropriate treatment of bloody discharge from single duct	Microdochectomy
Treatment of choice in ductal carcinoma of breast	Microdochectomy
MC form of breast cancer	*LCIS*
LCIS	*Multicentricity, bilaterality, good prognosis than DCIS*
LCIS	*Predominantly premenopausal*
NOT a management of bloody discharge from single duct	Radical duct excision is the treatment of choice
Fat containing breast lesion	Post traumatic cyst, Hamartoma, Galactocele
Fat necrosis NOT associated with	Ca breast
Lesions affecting terminal duct lobular unit	Nipple adenoma, blunt duct adenosis, fibroadenoma
MC cause of bloody discharge from nipple	Ductal papilloma
Blood stained discharge from nipple indicates	Duct papilloma, Ca breast, duct ectasia
Spontaneous bloody nipple discharge from single duct for 3 months	USG useful, galactogram useful NOT essential, majority of blood stained nipple discharge are due to papilloma or other benign condition
Green discharge is most commonly seen with	Duct ectasia
Treatment of duct ectasia	Hadfield operation
Serosanguinous nipple discharge is NOT associated with	*Mastitis*
Nipple discharge	Mammography is diagnostic, Cone excision done in single intraductal tumor, Red discharge indicate malignancy, Blue black discharge indicate duct ectasia
Breast infection in lactation	Can lead to abscess formation for which I&D may be required
Acute mastitis commonly occurs during	Lactation
Cracked nipple may be	Forerunner of breast abscess
Surgery for periductal mastitis	Hadfield operation
Breast abscess occur in patient with	Duct obstruction
Retromammary abscess arise from	Tuberculous rib, Infected hematoma, Chronic emphysema

Pregnant lady with painful lump in breast. What is the next investigation	USG
Mondor's disease	Superficial thrombophlebitis, Cord like appearance of subcutaneous veins
Fibrocystic disease of breast	Common age 30-40,FNAC is helpful in diagnosis, Excision biopsy may be done
Blue domed cyst is	*Non proliferative fibrocytic disease of breast*
Cystic breast disease	Aspiration is the treatment
14 year girl, right breast twice as left since onset of puberty at 12. both breast have similar consistency	Virginal hypertrophy
Large breast is NOT seen in	Schirrhous carcinoma
NOT given in cyclic mastalgia	Estrogen
Drug NOT used for cyclical mastalgia	Estrogen
Moderately increased risk of invasive breast carcinoma	Atypical lobular hyperplasia
Malignancy of breast is likely to be associated with	Atypical epithelial hyperplasia
NOT an invasive carcinoma	Comedo carcinoma, Lobular carcinoma insitu
NOT a true malignant tumor	Fibromatosis

PAGET'S DISEASE OF BREAST

Paget's disease	Presents as eczema, Cytology diagnostic, Represents underlying malignancy
Paget's disease	Intraductal
Paget's disease	Diagnosis by scrape cytology, Lymph node involvement is an essential feature
Paget's disease	Associated intraductal carcinoma, Prognosis good in absence of lump, Treatment simple mastectomy with axillary clearance
Paget's disease of nipple	Neoplasia
Paget's disease of nipple	Always there is underlying carcinoma
Malignant condition of breast	Paget's disease
MC site of extramammary Paget's disease	Vulva
Characteristic feature of Paget's cell	Abundant clear cytoplasm
NOT true about Paget's disease	Usually bilateral
Marker of Paget's disease of breast	CEA
Histological hallmark of Paget's disease of nipple	Infiltration of epidermis by malignant cells

GYNECOMASTIA

Drug causing hirsutism and gynaecomastia	Spironolactone
Gynecomastia	Lepromatous leprosy, HIV, Klinefleter syndrome
Gynecomastia is associated with	Cimetidine, ketaconazole, spironolactone
Gynecomastia is associated with	*Phenytoin*
Gynecomastia is associated with	*Testicular tumors, androgen insensitivity syndrome*
Gynecomastia is associated with	Bronchogenic cancer

Gynecomastia NOT seen in	Cryptorchidism, Turner's syndrome
Gynecomastia is NOT a side effect of	Bromocriptine
Hormone NOT associated with gynecomastia	Prolactin
Gynecomastia NOT associated with	Prolactinoma
NOT associated with gynecomastia	Cortisol
NOT a cause of gynecomastia	Pyrizidamine
13 year old boy has bilateral gynecomastia. His height is 148 cm. weight is 58 kg. Sexual maturity staging is 2. Gynecomastia is most likely due to	Pubertal gynecomastia
13 year old boy. Bilateral gynacomastia. Height 148 cm. Wt 58 kg. SMR stage 2	Pubertal gynacomastia
NOT true about gynecomastia	Subcutaneous mastectomy is the treatment of choice, May be seen in Addison's disease, Usually unilateral in young males
NOT true about Gynecomastia	Subcutaneous mastectomy is the initial treatment of choice
Hormones useful in investigating gynecomastia	Testosterone, estradiol, leutenising hormone
Treatment of Choice for Gynecomastia	Medical treatment
Incision for gynecomastia	Incision along alveolar margin
Surgical treatment for gynecomastia	*Webster procedure*

GRADES OF GYNECOMASTIA

I	*Mild breast enlargement without skin redundancy*
IIa	*Moderate breast enlargement without skin redundancy*
IIb	*Moderate breast enlargement with skin redundancy*
III	*Marked breast enlargement with skin redundancy and ptosis, simulates a female breast*

TUMORS OF BREAST

MC symptom of fibroadenosis	Pain
Type of fibroadenosis most likely to undergo malignant change	Epitheliosis
Feature of Fibroadenoma breast	Mobile diffuse mass
21 year unmarried woman has premenstrual fullness of breast and pain, likely diagnosis	Fibroadenosis
NOT true about fibroadenoma of breast	Occurs after 25 years of age
Treatment of fibroadenosis of breast	Conservative
Treatment of Symptomatic fibroadenoma	Follow up
Cystosarcoma phylloides is a	*Giant fibroadenoma*
Mobile variegated large lump in the breast of a 20 year old female is most likely to be due to	Cystosarcoma phylloides
Cystosarcoma phylloides	Usually bulky and may fungate through the skin
Cystosarcoma phylloides	Locally invasive
Surgery for Cystosarcoma phylloides	Simple mastectomy
Tumor which may occur in residual breast or overlying	Angiosarcoma

skin after wide local excision and radiotherapy for mammary carcinoma	

CAUSES OF CARCINOMA BREAST

High fat diet is a risk factor for cancer	Breast
Most significant risk factor for developing breast cancer	Atypical ductal hyperplasia
Breast carcinoma is associated with	BRCA1, BRCA2, Li Fraumeni syndrome
Breast cancer commonly seen in	Increased risk in relative, Early marriage < 20 years, Nullipara, Who avoid breast feeding, Increased fatty food, First pregnancy after 30 years
Increased risk for ca breast	Atypical hyperplasia, Florid hyperplasia
BRCA 1 gene is located in	Chromosome 17
Risk of ca breast in BRCA 1	60%
BRCA 1 and 2 associated with Cancer of	Breast And Ovary
Sporadic breast cancer is associated with mutation in	P53
Incidence of breast carcinoma in 1st degree relative	5-20%
Least risk of ca breast associated with	Ataxia telangiectasia
NOT a risk factor for ca breast	Multiparity, Fat necrosis, Long term estrogen

TYPES OF CARCINOMA BREAST

Commonest carcinoma of breast with multifocal origin	Ductal carcinoma
Commonest type of Ca breast	Infiltrating ductal carcinoma
MC type of breast carcinoma	Ductal carcinoma
Infiltrating ductal carcinoma	*Less frequently associated with lymph node metastasis*
Best prognosis among histological variant of breast carcinoma	Intraductal
Breast cancer which is multicentric and bilateral	Lobular
Biopsy of opposite site needed in	Lobular carcinoma
Multicentric and bilateral carcinoma breast	Lobular carcinoma
Breast conservation surgery is NOT done for	Lobular carcinoma
Single file pattern is seen in breast in	Infiltrating lobular
Signet ring cell	*Lobular carcinoma*
Breast cancer with poor prognosis	Inflammatory carcinoma
T4d in breast carcinoma corresponds to	Inflammatory carcinoma
Most malignant of carcinoma breast	Mastitis carcinomatosa
Best prognosis	Colloid (mucinous)
Mucinous carcinoma	*Younger people*
Ca breast with best prognosis	Tubular
Tubular carcinoma	*Enormous size, soft texture*
Clear cell carcinoma	*Bad prognosis*
Tumor with high labeling index is	*More aggresive*

FEATURES OF CARCINOMA BREAST

Familial carcinoma	Breast
Most common site of carcinoma breast	Upper outer quadrant
MC cause of sclerotic skeletal metastasis in females	Ca breast
Secondary deposits from carcinoma breast is commonest in	Bone
Distal metastasis from ca breast is most commonly seen in	Bones
Peau d orange is seen in	Carcinoma breast, Chronic abscess
Fleshy soft lymphatic infiltration of skin in breast cancer appear as	Peau de orange
Peu de orange appearance is due to	Lymphatic permeation (blockage of subdermal lymphatics)
Early breast carcinoma	Post mastectomy radiation is given when 4 or more lymph nodes are positive
Features of ca breast	Recent retraction of nipple, Cellular atypia
Features of pregnancy associated breast cancer	*Breast cancer diagnosed during or within 1 year after pregnancy, most common non gynecologic malignancy associated with pregnancy, ductal carcinoma is the most common pathologic type of tumor*
NOT true about pregnancy associated breast cancer	*MRI is the investigation modality of choice*
Chest wall involvement means	Serratus anterior, Intercostals muscles, Ribs
Chest wall involvement in Ca breast does NOT include	Pectoralis major
Risk factor for increased incidence of relapse in stage I carcinoma breast	Negative estrogen progesterone receptors status, high s phase, aneuploidy
Lymphatic spread of Ca breast	Axillary nodes are commonly involved, Internal mammary nodes are also involved, Axillary nodes are treated by surgical resection
Giuliano's glands	Sentinel node
Sentinel node biopsy important in	Ca breast
Carcinoma upper outer quadrant of breast does NOT spread to	Parasternal nodes
Prognosis in breast carcinoma depends on	Axillary lymph node status
Good prognostic factor on carcinoma breast	*ER, PR status positive*
Her2/neu	*Growth factor receptor, associated with bad prognosis*
Feature NOT evaluated for histological grading of breast carcinoma	Tumor necrosis
Male breast cancer	Estrogen receptor positive, Undescended testis is a risk factor, History of gynecomastia may be present
Male breast cancer is associated with	*BRCA2*

STAGING OF CARCINOMA BREAST

Tumor 2 cm or less without axillary nodes and no metastasis	T1N0M0
4 cm breast nodule with ipsilateral mobile lymph node	T2N1
5 cm breast lump 3 cm nodule in supraclavicular fossa	T2N3
43 year lady, 5 cm lump in right breast,3 cm node in supraclavicular fossa	T2N3M0
6 cm ca breast with fixed ipsilateral axillary lymphnode	T3N2
6*3 cm breast mass, hard mobile ipsilateral lymphnode and supraclavicular lymph node	T3N3
A 45 years old lady present with a lump in her right breast. The lump is 4 cm in diameter with evidence of cutaneous edema not fixed to pectoralis major muscle. Axillary lymph nodes are not enlarged. status of T	T4 is any size
Carcinoma tongue in right lateral aspect. lymphnode 4 cm size in level 3 on left side of neck	N2
Fixicity of skin in ca breast	Stage III
Ipsilateral supraclavicular lymphnodes positive	IIIC

SCREENING OF CARCINOMA BREAST

Breast self examination	**Monthly**
Self breast examination is done	*7 - 10 days after menses*
Triple assessment for ca breast	Clinical examination, mammogram, FNAC
Breast examination is done yearly in patients with	Family history of ca breast
Investigation to diagnose stage I carcinoma breast	Bilateral mammogram
Most sensitive investigation for Ductal carcinoma in situ of breast	Mammography
Mammography	*Uses less radiation than chest X ray*
Mammography	Indicated in 50-70 years of age, Mortality reduced by 30%, Radiation due to mammography can cause carcinoma
Mammography	It should be a part of the regular follow up of a woman following therapy for unilateral breast cancer
Mammography is taken in the view of	Craniocaudal and Mediolateral
Mammographic abnormality in Ca breast	Change in density, Microcalcification, Change in architecture, Speculation, Irregular mass, skin calcification, nipple inversion
Sensitivity of mammogram is low in young females because	Young breast have dense tissue
Cause of 11% false negative in mammography	Dense breasts
Fat on mammography	Post traumatic cyst, hamartoma, galactocele
Popcorn calcification in mammography	Fibroadenoma
Features on mammogram suggesting malignancy	Areas of speculated microcalcification
NOT an indication of malignancy in mammogram	Macrocalcification, Nodular calcification

DIAGNOSIS OF CARCINOMA BREAST

Tumor marker for breast cancer	CA 15-3
Xeroradiography is used for	Ca breast detection
Best diagnostic test for breast lump	Biopsy
Breast lump is diagnosed by	FNAC
FNAC of breast is associated with	*High false negativity*
A female patient with a hard mobile lump in her right breast. Which investigation would be most helpful in diagnosis	Excision biopsy
Nerve damage by sentinel node biopsy in breast ca	Intercostobrachial nerve
Sampling of internal mammary node	*Not recommended*
Estrogen receptor studies done on	Tumor tissue
Most sensitive investigation for breast ductal carcinoma in situ	MRI
MRI is least useful in ca breast to	Differentiate scar and metastasis
BI-RADS SCORE	Breast imaging reporting and data base system
Microcalcification in breast is suggestive of	Ductal carcinoma of breast
Prognosis of Ca breast does NOT depend on	Quadrant Involvement

MEDICAL MANAGEMENT OF BREAST CANCER

Anti estrogens are used in treatment of	Ca breast
Best treatment for carcinoma breast with axillary lymph node involvement and partial mastectomy done is	Chemotherapy
30 year female presented with unilateral breast cancer associated with axillary lymphnode enlargement was done, further treatment plan	Adriamycin based chemotherapy followed by tamoxifen depending on estrogen progesterone receptor status
Best chemotherapeutic regimen for ca breast	Cyclophosphamide,methotrexate,5 fluorouracil
Widely used in management of ca breast	Doxorubicin
Pemetrexed used in breast cancer belong to	Antimetabolite
Hormonal agents against breast cancer	Letrazole, Exemestane, Tamoxifen
Hormonal therapy used in ca breast	Tamoxifen , LHRH analogue
Tamoxifen in maximally useful in	Oestrogen positive Ca breast
Tamoxifen	Non steroidal antiestrogenic
Tamoxifen is associated with	Thromboembolism, Endometrial carcinoma, Cataract
High risk for development of breast cancer should be treated by prophylactic administration of	Tamoxifen
Treatment of estrogen dependent breast carcinoma	Tamoxifen
Long term tamoxifen cause	Ca endometrium
Women receiving tamoxifen should be periodically screened with	Endometrial sampling
Raloxifene cause	Endometrial carcinoma
NOT a side effect of tamoxifen	Cancer in opposite breast
Hormonal agent NOT used in treatment of breast cancer	Taxol
Monoclonal antibody produced by injecting her2 antigen	Trastuzumab

Trastuzumab	Monoclonal antibody produced by injecting her 2 antigen
Trastuzumab	Better combination with Paclitaxel, Used in metastatic breast cancer, No bone marrow toxicity, Causes downregulation of Her 2 neu
Fulvestrant	Used for treatment of advanced breast cancer, Selective estrogen receptor downregulator, Administered as once monthly IM, LONGER acting and MORE SAFER than SERM
SERD fulvestrant	Selective estrogen antagonist, used in treatment of breast cancer, may be administered as once a month dose

SURGICAL MANAGEMENT OF CARCINOMA BREAST

Breast conservative surgery is indicated in	T1 breast tumor, Extensive in situ cancer
Breast conservation surgery	Lumpectomy, Radiotherapy, Axillary lymphnode dissection, Sentinel lymph node dissection
Absolute contraindication of breast conservation surgery	History of previous radiation, 1st trimester pregnancy
Conservative breast surgery is NOT done in	Multicentricity, Diffuse microcalcification, Large pendular breast, SLE
Cystosarcoma phylloides is treated by	Simple mastectomy
Treatment of malignant phylloides	Simple mastectomy
Paget's disease of breast is treated by	Biopsy and simple mastectomy
Tylectomy means	Excision of lump
Most appropriate management of intraductal carcinoma	Simple mastectomy
Intraductal carcinoma in situ in 45 year old female	Simple mastectomy
Early breast cancer	Post mastectomy radiation therapy is given when 4 or more lymphnodes are positive
Ca breast stage I and II managed by	Modified radical mastectomy, Lumpectomy, axillary clearance and radiotherapy
Inflammatory carcinoma breast with metastasis to axilla, treatment of choice	Simple mastectomy + Radiotherapy
Management of Inflammatory carcinoma	Aggressive multimodality treatment
Treatment of hormone dependent fungating carcinoma of breast with secondaries in the lung in a female patient aged 30 years	Simple mastectomy followed by oophorectomy
A 75 years of old hypertensive lady has 2*2 cm infiltrating duct cell carcinoma in the subareolar region. There are not palpable lymph nodes and distant metastasis. However she had been treated for pulmonary tuberculosis 20 years ago. best course of management would be	Modified radical mastectomy followed by hormone therapy
Structure NOT preserved in Modified Radical Mastectomy	Pectoralis minor
Spared in Modified radical mastectomy	Long thoracic nerve
Distressing complication of modified radical	Lymphedema

mastectomy	
A 40 years old female with a 2 cm nodule in the breast and a proved metastatic node in the axilla, treatment is	Patey's with adjuvant chemotherapy
Patey's procedure	Removal of pectoralis minor and preservation of pectoralis major
Structures preserved in Patey's mastectomy	*Teres major, teres minor, axillary vein*
Pectoralis minor is removed	Patey's modified radical mastectomy
NOT done in Patey's mastectomy	Pectoralis major removed
NOT removed in Patey's modified radical mastectomy	*Rotter nodes*
Haagensen's signs of inoperability of carcinoma	Edema of skin of breast or arm, Satellite tumor nodules in skin of breast, Proved supraclavicular or distant metastasis, Parasternal tumorous growth
Structures preserved in radical mastectomy	Axillary vein, Cephalic vein, Nerve to serratus anterior
Spared in radical mastectomy	Supraclavicular lymphnode
A distressing complication of radical mastectomy	Edema of arm
Nerve supply to which muscle damaged after mastectomy (NOT able to extend, adduct and internally rotate arm)	Latissimus dorsi
Complication of post mastectomy lymph accumulation is	Lymphosarcoma
Post of radiotherapy in ca breast is given to prevent	Recurrence
Flap commonly used in breast reconstruction	TRAM
Good cosmetic results after breast carcinoma reconstruction is seen with	TRAM flap
NOT used for reconstruction of breast	Pectoralis major myocutaneous flap

PROGNOSTIC FACTORS IN CACINOMA BREAST

Nottingham prognostic index for carcinoma breast	*(0.2*size in cm)+grade+nodes*
Most important prognostic factor correlate for recurrent disease and survival	*Nodal status*
Risk factors for increased incidence of relapse in breast cancer	Negative EP/PR status, High s phase, Aneuploidy
Expressed in breast cancer	Her 2 neu, P53, BRCA 1
Poor prognostic factors in carcinoma breast	*Aneuploidy, S phase fraction >5%, high cathepsin D, tumor labeling index <3%*
Most important prognostic factor in ca breast (male and female)	Lymph node status
Most important prognostic factor in breast carcinoma	Stage of tumor at the time of diagnosis
Good prognostic factor for ca breast	ER, PR +ve
Ca breast with best prognosis	Papillary carcinoma
NOT evaluated for tumor grading of ca breast	Tumor necrosis

CERVIX

ANATOMY OF CERVIX

Lymphatic spread of Ca cervix	External iliac, Obturator, Hypogastric
Lymphatic drainage of cervix	Iliac lymphnodes
NOT a lymphatic drainage of cervix	Deep inguinal node

CAUSES OF CERVICAL CANCER

Verrucous carcinoma	*Exophytic variety of squamous cell carcinoma, locally invasive*
Verrucous carcinoma is caused by	HPV
HPV causing condyloma	6 and 11
Carcinoma cervix is associated with	Type 16,18,31
Carcinoma cervix	90% associated with HPV, OCP, Immunocompromised
MC agent for ca cervix	HPV 16
HPV associated with adenocarcinoma of cervix	HPV 18
High risk HPV	16 and 18
Ca cervix	HPV 16,18,33
HPV acts by inhibiting	Cyclin D
Predisposing factor for ca cervix	Multiple sexual partners, Genital wart, HPV 16,18, Early sexual intercourse, Smoking, Multiparity, HIV
Ca cervix	Multiparity
Ca cervix caused by	Papova virus
Risk factor for ca cervix	Early marriage
A 35 year old pregnant woman has the highest risk of development of	*Carcinoma cervix*
NOT a predisposing factor for ca cervix	Single child birth
NOT a risk factor for cervical carcinoma	Low parity

LESIONS OF CERVIX

Two common positions for beginning of neoplasia of cervix	*12'O clock, 6'O clock*
Changes seen in dysplasia of squamocolumnar junction	Basement membrane INTACT, change of epithelium, Increased mitotic figures, hyperchromatic nuclei
How many cases of atypical squamous cells of undetermined significance (ASCUS) regress spontaneously	80%
Highest risk of progression to carcinoma	High grade squamous intraepithelial neoplasia
MC site of origin of CIN	Squamocolumnar junction
CIN	Premalignant, HPV predispose, Pap smear can detect it, Occurs at squamocolumnar junction, Chlamydia can predispose

In a low grade squamous intra epithelial lesion in Bethesda system includes	CIN I
CIN II means	*Involvement of two third thickness of cervical epithelium*
Risk of progression of malignancy in CIN II	5%
High grade CIN is associated with	Cellular atypia
Time taken for conversion of CIN to invasive carcinoma	10 years
Congenital erosion may reappear at	Puberty
DD for erosion of cervix	Chronic cervicitis, Early carcinoma cervix, Tuberculous of cervix, Cervical polyp
Icthyosis uteri refer to	Squamous metaplasia of cervix
In management of cervical tear, first stitch is applied	*Above the angle*

FEATURES OF CERVICAL CANCER

Commonest malignancy in women in India	Ca cervix
MC site of ca cervix	Squamocolumnar junction
MC site of ca cervix	Ectocervix
Commonest tumor of cervix	Adenocarcinoma
Earliest symptom of ca cervix	Irregular vaginal bleeding
Earliest symptom of invasive carcinoma of cervix	Post coital bleeding
Ca cervix presents with	Metorrhagia
Carcinoma cervix presents with	*Post coital bleeding, abnormal vaginal bleed, purulent discharge from vagina*
Hela cell related with	Carcinoma cervix
Hela cells are used for	*Apoptosis studies, tumor marker studies, parvovirus culture*
Schiller positive	Carcinoma cervix
Schiller positive	Ectropion, Eversion, Leukoplakia, Carcinoma in situ
MC cause of uremia in Ca cervix	Bilateral ureter involvement
MC cause of death in ca cervix	Renal failure
Ca cervix with altered sensorium and hiccups is due to	Uremia
Squamous cell carcinoma	Common at squamocolumnar junction, Post coital bleeding is a common symptom,
Incidence of lymph node metastasis in Ca cervix stage II	15 – 20%
Lymph nodes first involved in metastatic disease of carcinoma cervix	*Paracervical or ureteral nodes*
Ca cervix	Blood spread NOT very common
Ca cervix	NOT associated with hypertension, obesity diabetes
Malignancy in which risk of metastasis to ovary is least	Ca cervix

STAGING OF CERVICAL CANCER

In microinvasive cervical cancer, maximum depth and length of involvement should respectively not more	*5 mm, 7 mm*

than	
Carcinoma cervix IA1	<3mm depth
Cervical carcinoma lesion of size > 5mm depth with horizontal width of > 7 mm	Stage IB
Ca cervix involving upper 2/3rd of vagina, no parametrial involvement	IIA
Ca cervix involvement of parametrium and retroperitoneal lymph nodes	Stage IIB
Stage IIIA of carcinoma cervix	Involvement of lower one third of vagina, no pelvic side wall involvement
Vaginal involvement earlier in Ca cervix	IIIA
Ca cervix extension to lower third of vagina	3A
Carcinoma cervix extending to lateral pelvic wall	Stage IIIB
Hydronephrosis in Ca cervix	Stage IIIB

SCREENING OF CERVICAL CANCER

Best screening test to measure potential malignancy of cervix	Pap smear
Pap smear useful for	Trichomonas vaginalis, HPV, inflammatory changes
Pap smear fixation by	Ethyl alcohol
Predictive rate of Pap smear	98%
Best screening test for ca cervix	Cervical cytology
Pap smear in pregnancy	Routine as a part of screening
Cytogenecity of solid tumors is not easily assessed especially in carcinoma cervix because	Contamination with infectious agents
Liquid based cytology	*Costly than pap smear, reduces false negative*
Acetic acid staining of cervix does NOT detect	Cervical polyp

DIAGNOSIS OF CERVICAL CANCER

35 year female, post coital bleeding, next step	Clinical examination and pap smear
63 year female L3 cervical erosion, bleeds on touch, diagnosis done by	Pap smear, Excision biopsy, Colposcopy
Best method to confirm diagnosis of Ca cervix	Cervical biopsy
Abnormal schiller test on colpscopy NOT seen in	Cervical polyp
Procedure of choice in a woman with 12 weeks pregnancy with atypical pap smear	Colposcopy
A postmenopausal woman with HSIL reported on first pap test. Next line of management	Colposcopy
Young lady with mild erosion of cervix and pap smear shows dysplasia, next step	Colposcopy
45 year old lady contact bleeding positive pap smear. Next line	Colposcopy directed biopsy
35 year lady with post coital bleeding, management	Colposcopy
CIN III on pap smear in 40 year female, next step	Colposcopy and LEEP
Post coital bleeding, no growth is seen per speculum	Colposcopy and biopsy

55 year female with atypical glandular cells of unknown significance. Most appropriate step	Colposcopy, endometrial biopsy, ECC
45 year female, CIN III, next step	Colposcopy directed biopsy
Indications of colposcopy	Suspicious pap smear, Suspected invasive carcinoma
NOT an indication of colposcopy	*Obvious visible growth*
Unsatisfactory colposcopy	Failure to visualise transformation zone
Finding on colposcopy suggestive of malignancy	Punctuation
NOT a colposcopic feature of malignancy	Condyloma
Can NOT be visualized in colposcopy	Upper 2/3rd of endocervix
Most useful diagnostic aid for carcinoma in situ cervix	Cone biopsy
Endocervical curettage shows malignant cells in a 40 year lady	Cone biopsy
Cone biopsy indicated in	Abnormal pap smear, Endocervical curettage positive
Cone biopsy NOT indicated in	Cervical metaplasia
Cervical cone biopsy does NOT cause	Spread of malignancy
35 year female, postcoital bleeding 3 months , 1*1 cm nodule on anterior lip of cervix	Punch biopsy
Postcoital bleeding, visible growth on cervix detected per speculum examination, next investigation	Punch biopsy
NOT done in Ca cervix according to FIGO	Pelvic USG, CECT
NOT true about Ca cervix	CT mandatory for staging

MANAGEMENT OF CERVICAL CANCER

45 year female, negative pap smear with positive endocervical curettage	Conisation
Method of diathermy conisation in young women	Superficial conisation
Treatment of carcinoma in situ of cervix	Conisation
Therapeutic conisation indicated in	Microinvasive carcinoma
Best treatment Ca cervix in situ	Simple hysterectomy, Conisation
MC treatment in microinvasive cancer	Hysterectomy
42 year female Ca cervix in situ, management is	Hysterectomy
In young women, method of diathermy conisation must be	Superficial conisation
Commonest side effect of cryotherapy for carcinoma cervix in situ	Persistent watery discharge
Treatment of 23 year old mother with one child with carcinoma in situ of cervix	Cone biopsy
45 year woman on punch biopsy carcinoma in situ	TAH and BSO
35 year female P3 observed to have CIN grade III on colonoscopic biopsy. Best initial management	LEEP
Treatment of choice in stage III CIN in 40 year old female	Hysterectomy
35 year P2L3 with CIN III on colposcopic biopsy	LEEP, Cold knife conisation, Hysterectomy
Treatment by radiotherapy is most frequently indicated in carcinoma of	Cervix
NOT true about ca cervix	When radiotherapy is given, para aortic node should be included, From stage Ib onwards same prognosis with surgery and RT
Treatment of Stage I in Ca cervix	Surgery

Stage I ca cervix treated surgically by	Wertheim hysterectomy
Treatment of Ca cervix stage I by	Surgery
A lady undergoes radical hysterectomy for ca cervix stage Ib. cancer extends to body of uterus and upper part of cervix. Next step	Follow up
Brachytherapy is used in	Stage IB ca cervix
Treatment of ca cervix stage IB	Surgery, chemotherapy, radiotherapy
Treatment of choice for stage IB carcinoma cervix	Radiotherapy
Total hysterectomy done for stage Ib Ca cervix, lower part of body of uterus and upper part of cervix extension	Follow up
Radical hysterectomy done in	Carcinoma cervix IB
Treatment of Ca cervix stage II	Extended hysterectomy, Chemotherapy, Intracavitatory brachytherapy
Treatment of choice of carcinoma cervix Stage II in a young female	Radical hysterectomy
Ca cervix involving parametrium NOT pelvis	Stage IIB, radiotherapy should be given, Staging should be done after cystoscopy
Treatment of stage IIB ca cervix	Radiotherapy + chemotherapy
Stage IIIa Carcinoma cervix	Involvement of Lower 1/3rd of vagina
Treatment of stage IIIB carcinoma cervix	Intracavitatory brachytherapy followed by external beam RT
45 year woman has negative pap smear with positive endocervical curettage. Next step	Wertheim's hysterectomy
Signs of inoperability of ca cervix	Complete fixicity of cervix and parametrium to lateral pelvic wall, Presence of extrapelvic metastasis, Involvement of bladder, Extensive infiltration of vagina
Point A in Radiotherapy of Ca cervix	2cm above and lateral to cervix, Level of crossing of ureter in pelvis
Point B in Ca cervix corresponds to	Obturator node
Point B in radiotherapy receives	6000 Cg

PROGNOSTIC FACTORS OF CERVICAL CANCER

Poor prognostic factor of Ca cervix	Young age, Adenocarcinoma, Hydroureter

ENDOMETRIUM

CAUSES OF ENDOMETRIAL CARCINOMA

Endometrial hyperplasia caused by	Estrogen
Endometrial hyperplasia is associated with	Unopposed estrogen effects
Endometrial hyperplasia occurs mainly with	*Anovulatory cycles*
Endometrial hyperplasia seen in	PCOD
Major factor in carcinoma endometrium	Inheritance
Endometrial carcinoma most commonly associated with	Obesity, Hypertension, Granulosa cell tumor

Risk of endometrial cancer	Obesity, Family history, Use of HRT, Late menopause, PCOD, Unopposed estrogen, Diabetes mellitus, Hypertension
Risk factor for endometrial carcinoma	Nulliparity, Obesity, Hypertension, Diabetes
Risk of ca endometrium highest with	Complex hyperplasia with atypia
Features of atypical hyperplasia	*Crowding of endometrial glands with budding and epithelial atypia*
Endogenous production of carcinogen is associated with	Endometrial carcinoma
Percentage of cystic glandular hyperplasia turning to malignancy	1%
Risk of complex hyperplasia with atypia progressing to ca endometrium	28%
Long term tamoxifen may cause	Ca endometrium
Ca endometrium predisposed by	Nulliparity
PCOD associated with	Ca endometrium
NOT seen in corpus cancer syndrome	Multiparity
MC cause of post menopausal bleeding	Ca endometrium
Commonest cause of ca endometrium	Unopposed estrogen
Can cause endometrial cancer	Metropathica hemorrhagica
Perimenopausal woman with menorrhagia one should rule out	Carcinoma of uterus
NOT a risk factor for ca endometrium	Multiple sexual partners
NOT a risk factor for development of endometrial carcinoma	Early menopause
NOT predispose to endometrial carcinoma	Oral contraceptive

LESIONS OF ENDOMETRIUM

MC cause of endometrial bleeding	*Endometrial atrophy*
Sarcoma botyroides	Vagina, Grape like cluster, Young age, Malignant
Sarcoma botyroides common in	Children under 2 years of age
Treatment of choice in Sarcoma botyroides	Radical hysterectomy and Vaginectomy

FEATURES OF ENDOMETRIAL CARCINOMA

Regeneration of endometrium from	Zona basalis
Commonest histology of ca endometrium	Adenocarcinoma
Commonest malignancy in body of uterus	Adenocarcinoma
Most malignant endometrial carcinoma	Clear cell carcinoma
Type of endometrial carcinoma with Worst prognosis	Clear cell carcinoma
Endometrioid type of endometrial carcinoma in HPE	Excess estrogen
Pyometra commonly occurs following	Carcinoma endometrium
Presence of Pyometra in Postmenopausal female strongly suggests	Malignancy of uterus
Adenocarcinoma uterus along with sarcoma	Mixed mullerian carcinoma
Most important indicator of prognosis in ca endometrium	Lymph node status, Histological type of carcinoma
Endometrial carcinoma with worst	*Uterine papillary serous cancer*

prognosis	
Adenoacathoma	*Well differentiated adenocarcinoma*
Synchronous malignancy associated with carcinoma endometrium	*Ovary*
MC germ cell tumor associated with endometrial cancer	*Theca cell tumor*
Lymph nodes NOT involved in ca endometrium	Inferior mesenteric

STAGING OF ENDOMETRIAL CARCINOMA

Stage of Ca endometrium with just cervical involvement	II
Stage of ca endometrium with invasion of 10 mm of myometrium	IB
Ca endometrium stage III	Vaginal metastasis, Paraaortic node, Pelvic lymph node involvement, Peritoneal involvement
Ca endometrium more than half of myometrial involvement extending to vagina with positive peritoneal cytology but no involvement of para and preaortic nodes	IIIB
Stage IIIB	Vaginal metastasis, Serosa involved, Positive peritoneal cytology
Ca endometrium with metastasis in vagina	Stage IIIb
Endometrial carcinoma 50% of endometrium, extending into vagina, lymph nodes negative with positive peritoneal cytology	3b
Perimenopausal lady, well differentiated adenocarcinoma of uterus, more than half myometrial invasion, vaginal metastasis, inguinal lymph node metastasis	Stage IIIC
Ca endometrium with positive superficial inguinal lymph node	Stage IV
Adenocarcinoma, more than half myometrial invasion, vaginal metastasis and inguinal lymph node involvement	Stage IVB

DIAGNOSIS OF ENDOMETRIAL CARCINOMA

Investigation of choice in post menopausal bleeding in 55 year female	Fractional curettage
Investigation of choice in post menopausal bleeding with normal pelvis	Fractional curettage
Best investigation of ca endometrium with endocervical involvement	Endocervical curettage
Investigation of choice for preoperative evaluation of carcinoma endometrium	*CE MRI*
Best investigation for staging endometrial cancer	*MRI*

MANAGEMENT OF ENDOMETRIAL CARCINOMA

Treatment of recurrent carcinoma endometrium	*Progesterone*
Ideal treatment of 55 year female with simple hyperplasia of endometrium with atypia	Simple hysterectomy
Treatment of choice in endometrial carcinoma stage I	Hysterectomy
Direct lymph node dissection in ca endometrium	Penetration into half of myometrium, Clear cell ca, Papillary serous carcinoma
Stage II ca endometrium treated by	Radiotherapy followed by surgery
Treatment of Stage II endometrial cancer	Surgery & Post operative radiotherapy
Treatment of stage IV ca endometrium	Radiotherapy, chemotherapy and hormonal therapy
Treatment of ca endometrium in 56 year woman	Pan hysterectomy
Indication for post op radiotherapy in ca endometrium	Myometrial invasion of more than half thickness, Positive lymphnodes, Endocervical involvement, Deep myometrial involvement, Poor differentiation, Cervical involvement, Papillary serous tumor
NOT an indication of radiotherapy in case of carcinoma endometrium	Tumor positive for estrogen receptors
NOT an indication of radiotherapy in carcinoma endometrium	Enlarged uterine cavity
Choice of adjuvant treatment of endometrial carcinoma stage IA grade I	No treatment

FIBROID

GENERAL FEATURES OF UTERINE TUMORS

Most important support of uterus	Levator ani
Does NOT receive lymphatic from uterus	Deep inguinal lymph nodes
MC site of leiomyoma	Stomach (uterus NOT in option)
Uterine myoma least likely to undergo	Malignant change
Commonest type of uterine polyp	Mucous polyp
Treatment of choice for endocervical polyp	Polypectomy
Treatment of endometrial polyp	Hysteroscopy
35 year woman dysmenorrhea menorrhagia 6 months duration, 20 weeks size uterus tender	Fibroid
NOT true about choriocarcinoma	Villi present
Uterine delineation best done by	Saline infusion
Condition where a thin walled sac develop in myometrium often containing fetal parts	Uterine sacculation
Pan hysterectomy means removal of	Uterus,Cervix,3/4th of vagina

CAUSES OF FIBROID

Fibroid is common in	Nullipara, Benign

CLINICAL FEATURES OF FIBROID

Fibroid	Estrogen dependent tumor
Fibroid uterus	Usually regress after menopause
Asymptomatic myoma	Needs follow up, Does NOT need removal if small
Commonest site of fibroid	Intramural
To start with all fibroids are	Interstitial
Earliest commonest presenting feature of anterior cervical fibroid	Frequency of urine
Retention of urine commonly caused by	Posterior cervical fibroid
A woman with infertility, presents with 6 weeks amenorrhea with urinary retention. Most likely etiology	Impacted cervical fibroid
Fundal myoma commonly present as	Inversion of uterus
Broad ligament myoma	*Between two layers of broad ligament*
Uterine fibromyoma is associated with	Endometriosis
Pressure symptom due to	Subserous fibroid
Interstitial myoma predispose to menorrhagia by	Inhibiting uterine contractility
Menorrhagia is common in	Submucous fibroma
Type of fibroid associated with recurrent abortion	Sub mucosal
Degeneration of myoma likely to start form	Centre
Commonest degenerative changes observed in fibroid	Hyaline degeneration
Indian file appearance	*Hyaline degeneration*
Calcareous degeneration common in	Subserous
Malignant prevalence in fibroid	0.5%
Rarest modification of fibroid uterus	Sarcomatous change
Change does NOT occur in leiomyoma of uterus	*Squamous metaplasia*
NOT seen in fibroid	Amenorrhea
NOT a change in fibroid uterus	Squamous metaplasia
Fibroid uterus does NOT present with	Amenorrhea

COMPLICATION OF FIBROID IN PREGNANCY

MC complication of fibroid in pregnancy	Abortion
55 year, recurrent urinary retention after a hysterectomy done for huge fibroid. most likely cause	Injury to hypogastric plexus
NOT a complication of fibroid in pregnancy	Placenta previa
Red degeneration due to	Thrombosis of veins
Red degeneration of fibroid	Aseptic infarction
Pregnant woman with fibroid uterus, acute pain in abdomen and low grade fever and mild leucocytosis	Red degeneration
Red degeneration common in	Second trimester
NOT true about red degeneration of myoma	Immediate surgical intervention is needed
Treatment of red degeneration of fibroid during pregnancy	Analgesics

DIAGNOSIS OF FIBROID

Submucosal fibroid detected by	Hysteroscopy, Hysterosalpingography, Transabdominal USG
A uterus with submucous fibroid protruding into cavity best diagnosed by	Hysteroscopy

MEDICAL MANAGEMENT OF FIBROID

Drug reducing size of fibroid/decreased vascularity of fibroid seen with	GnRH analogue, Danazol, Mifepristone
NOT used to shrink fibroid	Estrogen
NOT a treatment of fibroids	OC pills
Drug NOT used for decreasing size of Fibroid	DMPA

SURGICAL MANAGEMENT OF FIBROID

35 year female, completed family, asymptomatic 10 weeks size fibroid	Observation
Surgical treatment for asymptomatic uterine myoma is indicated if	Myoma is pedunculated, Tumor is larger than size of 3 months pregnancy, Diagnosis is uncertain
Prerequisites for myomectomy	Anemia corrected, Other causes of infertility ruled out, D&C, Hysteroscopy
Treatment of 14 weeks size fibroid in nulliparous woman	Myomectomy
29 year old, nulliparous woman severe menorrhagia lower abdominal pain, 3 months. 14 weeks uterine size with fundal fibroid	Myomectomy
Management of 26 year woman with 7*8 size fibroid	Follow up and myomectomy
MC complication of laparascopic hysterectomy	Damage to intestine
Not an advantage of hysteroscopic myomectomy	Recurrence
NOT a measure to reduce bleeding during myomectomy	Pre operative OCPs
Percentage of women conceiving after myomectomy	40 – 50%
Treatment of choice in a perimenopausal woman with bleeding PV due to multiple fibroid	TAH with BSO
Uterine artery embolisation is done using	Polyvinyl alcohol
Uterine artery embolisation first performed by Ravina in	1991
NOT a method of management of fibroid	Radiofrequency ablation

UTERINE SARCOMA

Tennis racket cells	Rhabdomyosarcoma
Carcinosarcoma occurs in	Uterus
Incidence of Sarcomatous degeneration of fibroid	<0.5%
Risk of sarcoma in fibroid uterus	<1%
Uterine sarcoma constitute of	5% of all malignant growth of uterus

Most important criteria with regard to malignant behavior of leiomyosarcoma	Number of mitosis per high power field
STUMP (stromal tumor of undetermined malignant potential)	*5 - 10 mitoses per HPF*
Important change in sarcomatous change of fibroid	*Non encapsulation of tumor*
NOT a feature of sarcomatous change of fibroid	*Fibroid is firmer in consistency*
Most active single chemotherapeutic agent in treatment of leiomyosarcoma	Adriamycin or doxorubicin

OVARIAN MALIGNANCY

ANATOMY OF OVARY

Cortex of ovary does NOT contain	Hilus
Pain of ovarian pathology referred to	Medial thigh
Lymphatic drainage of ovary	Paraaortic nodes
NOT a function of ovary	Exocrine

GENERAL FEATURES OF OVARIAN MALIGNANCY

Risk of ovarian carcinoma increased above normal in a woman with non autosomal dominant genotype with one first degree relative with ovarian cancer	2-3 times
Percentage of ovarian tumors of non epithelial origin in childhood	50%
Percentage of ovarian tumors of non epithelial origin in childhood	20%
MC ovarian tumor	Serous tumor
MC ovarian tumor in premenopausal women	Serous cystadenoma
MC type of ovarian tumor during pregnancy	Simple serous cystoids
MC type of ovarian tumor	Cystadenoma
MC ovarian tumor in less than 20 years	Germ cell tumor
Borderline tumors	10% of all epithelial tumors are borderline, Good prognosis, Metastasis NOT common, Absence of stromal invasion
Masculinizing tumors of ovary	Arrhenoblastoma
Commonest malignancy of ovary	Serous
Most malignant ovarian tumor	Serous cystadenocarcinoma
Ovarian tumors commonly arise from	Surface epithelium
Ovarian tumor causing menorrhagia	Theca cell tumor
Malignant germ cell tumor of ovary	Choriocarcinoma, Teratoma
Can metastasize to ovary	Malignant melanoma, Stomach, Lymphoma
Ovarian tumor most likely to undergo malignant change	Pseudomucinous cyastadenoma

Pseudomyxoma peritonei	Mucinous cystadenocarcinoma of ovary
Attack of flushing and cyanosis occur in	Carcinoid tumor
45 year female, bilateral ovarian mass, ascites and omental caking on CT scan. High possibility that the patient is having	Malignant epithelial tumor
Tumor arising from ovarian connective tissue	Fibroma, Sarcoma
25 year old infertile woman regular menstruation fever lower abdominal pain and dysmenorrhea present herself at OPD. Bilateral soft tender mass of 3 cm diameter in both fornices and uterus is of normal size.	Tubo ovarian masses
NOT a benign solid ovarian tumor	Adenomyoma
NOT a germ cell tumor	Serous cystadenoma
NOT a gem cell tumor	Gynandroblastoma
NOT a germ cell tumor	Granulosa cell tumor
NOT a malignant tumor of germ cell origin	Mature teratoma
NOT true about serous cystadenoma of ovary	Multiloculated, sticky, gelatinous fluid
Pain of ovarian carcinoma referred to	Medial surface of thigh
MC complication of ovarian tumor	Torsion
Which causes torsion of ovarian mass	Physical trauma
NOT a complication of benign ovarian tumor	Metastasis
Feature in USG suggestive of ovarian malignancy	Septations, Bilaterality
NOT a marker of malignant germ cell tumor of ovary	CA 125
Percentage of metastatic epithelial ovarian tumor benefited by treatment with alkylating agent	50-74%
Primary Ovarian failure is treated by	Oestrogen + Progesterone
Ovarian tumor diagnosed after delivery should be removed	Within 48 hours of delivery
25 year married woman, nullipara, serous cystadenocarcinoma	Unilateral salpingooophorectomy

CAUSES OF OVARIAN MALIGNANCY

Mutations associated with ovarian malignancy	*BRCA 1, MSH 2, MLH 6*
NOT a risk factor for Ca ovary	OCP
NOT a hormone dependent carcinoma	Ovarian carcinoma
NOT a risk for development of carcinoma ovary	Use of oral pills

OVARIAN CYST

Corpus lutein cyst due to	HCG
Theca lutein cyst	H.mole, Choricocarcinoma
Glistening spots in tubal serosa	Paraovarian cyst
30 year old female presents with sudden severe abdominal pain. an abdominal mass is palpable on examination	Twisted ovarian cyst
Size of ovarian cyst considered to be malignant	8 cm
36 year old multiparous woman with 5-6 cm cyst in one	Observation to see if it disappears by itself in 3 months

ovary.	
35 year patient, USG 3*5 cm clear ovarian cyst on right side	OC pills
15*15 cm ovarian cyst in an 8 weeks pregnant lady	Laparotomy at 14 – 16 weeks
22 year female with mobile 4*4 size ovarian cyst	Debulking
Treatment of choice for ovarian cyst in a postpartum is	Immediate removal
6 weeks gestation, Simple ovarian cyst >10 cm	Removal of cyst in Second trimester

GRANULOSA CELL TUMOR

Granulosa cell tumor of ovary	Vimentin, Epithelial membrane antigen, Inhibin, CD99
Granulosa cell tumor of ovary	Associated with ca endometrium, Secretes hormone, Associated with endometrial hyperplasia
Granulosa cell tumor secrete	Estrogen
Tumor likely to involve opposite ovary by metastasis	Granulosa cell tumor
Precocious Pseudopuberty is associated with	Granulosa cell tumor
Feminizing ovarian tumor	Granulosa cell tumor
Cause of post menopausal bleeding	*Granulosa cell tumor*
Call Exner bodies	Granulose cell tumor
Marker for granulose cell tumor	Inhibin
Inhibin inhibits	FSH

DERMOID CYST/ MATURE TERATOMA

A 15 year old girl presents with a large unilateral adnexal mass and ascites. Most likely lesion in patient	*Immature teratoma*
Ovarian teratoma in post pubertal female	*Immature teratoma*
MC ovarian tumor in pregnancy	Dermoid cyst
Incidence of bilaterality in dermoid cyst	10%
Benign cystic teratoma	10% bilateral
MC ovarian tumor in adolescence	Mature teratoma
Dermoid cyst of ovary	Teratoma, Frequently undergo torsion, X ray is diagnostic, Contains sebaceous material and hair
MC ovarian cyst to undergo torsion	Benign cystic teratoma
Ovarian tumor more prone to undergo torsion in pregnancy	Dermoid cyst
Ovarian mass, X ray pelvis show radioopaque shadow	Dermoid cyst
Common tumor complicating pregnancy	Dermoid
Commonest germ cell tumor of childhood	Mature teratoma
Dermoid cyst derivatives from	All 3 germ layers
Teratoma arise from	Totipotent cells
NOT bilateral	Dermoid cyst
Does NOT arise from surface epithelium	Benign cystic teratoma
NOT true about dermoid cyst	*Bilateral in 35% of cases*
Benign cystic teratoma can be diagnosed by	X ray
Maximum radio opaque shadow in ovary	Teratoma

8 weeks pregnancy dermoid cyst, removed at	14 – 16 weeks

DYSGERMINOMA

Most radiosensitive ovarian tumor	Dysgerminoma
MC ovarian tumor in younger age group	Dysgerminoma
MC pure germ cell tumor of ovary	Dysgerminoma
MC Pure malignancy germ cell tumor of ovary	Dysgerminoma
Dysgerminoma	Unilateral, Radiosensitive, Blood spread. Bleomycin, etoposide, cisplatin
Bilateral ovarian tumor	Dysgerminoma
Raised in dysgerminoma	LDH
Placental alkaline phosphatase is a marker of	Dysgerminoma
Alkaline phosphatase elevated in	Dysgerminoma
Raised in dysgeminoma	Serum lactate dehydrogenase
Does NOT secrete hormone	Dysgerminoma
Increased AFP NOT seen in	Dysgerminoma
12 year female dysgerminoma right ovary 4*5 cm in size with intact capsule. Best treatment	Oophorectomy on involved side

ENDODERMAL SINUS TUMOR

Yolk sac tumor	Endodermal sinus tumor, Elevated AFP, Schiller duval bodies, Highly malignant, Young individuals
Glomeruloid body is also known as	*Schiller duval body*
Hormone produced by endodermal sinus tumor	AFP, Alpha 1 antitrypsin
Metastasis is LEAST common with	Endodermal sinus tumor
Important tumor marker in diagnosis of endoermal sinus tumor	AFP
Does NOT secrete HCG	Endodermal sinus tumor

BRENNER TUMOR

Brenner tumor of ovary belong to	Epithelial tumor
Brenner tumor	Resembles fibroma, Common in postmenopausal age group
NOT a germ cell tumor	Brenner tumor
Puffed wheat nuclei	Brenner tumor
Walthard cell nest is associated with	*Brenner tumor*

CHORIOCARCINOMA

Choriocarcinoma spreads by	Hematogenous route
Poor prognosis in choriocarcinoma is with	HCG >1000
Treatment of choice in Choriocarcinoma	Chemotherapy

KRUKENBERG TUMOR

MC site of krukenberg tumor	Stomach
Krukenberg tumor	Smooth surface, Bilateral , Shape of ovary is maintained, Arises usually from stomach carcinoma
Bilaterally enlarged ovaries with smooth surface	Krukenberg tumor
Signet ring appearance	Krukenberg tumor
NOT true about Krukenberg tumor	Rough surface
NOT true about Krukenberg tumor	*Large cystic spaces*

FIBROMA AND MEIG SYNDROME

Meig syndrome	Associated with ascites and pleural effusion, No treatment required
Meig syndrome	Ovarian tumor, Ascites, Pleural effusion
Ovarian tumor associated with Meig syndrome	Fibroma
NOT a component of Meig’s syndrome	Malignant ovarian tumor
NOT a component of Meig syndrome	Pericardial effusion
Pseudomeig syndrome	Ovarian tumor

CLEAR CELL CARCINOMA

Hob nail cells	Clear cell carcinoma

HILUS CELL TUMOR

Reinke crystal	Hilus cell tumor
NOT an epithelium derived ovarian carcinoma	Hilus cell carcinoma

STAGING OF OVARIAN CANCER

Surgical staging of ovary done by	Peritoneal washing, Peritoneal biopsy, Omental biopsy
Surgical staging of Ca ovary does not involve	Palpation of organs
Imaging in ca ovary NOT useful for	Staging
Bilateral ovarian cancer with capsule breached ascites positive for malignant cells	Stage I
NOT true about stage IA	Paraaortic node involvement does NOT affect staging
Ovarian tumor both ovaries, tumor absent on external surface, capsule intact ,no malignant ascites	IB
Stage of Ca ovary with ascites, malignant cells in ascites fluid. capsule ruptured	Stage IC
Ca ovary with superficial liver metastasis with bilateral ovarian mass	Stage III

Ovarian tumor limited to true pelvis with negative nodes histological confirmed seeding of abdominal portioned surface	IIIA

DIAGNOSIS OF OVARIAN TUMOR

55 year female with abdominal pain, ascites, dyspnoea. Her CA 125 levels are elevated	Ca ovary
25 year nullipara undergoes laparoscopic cystectomy for ovarian cyst. HPE reveals ovarian serous cystadenocarcinoma	Serial CA 125 measurement
CA 125 specific for	Epithelial cell carcinoma of ovary
CA 125 secretion is associated with	**Muc16 (mucin)**
Ca ovary on follow up. CA 125 elevated. next step	PET

TREATMENT OF OVARIAN TUMOR

Timing of surgery for an ovarian tumor identified in immediate postpartum period	*Immediately after delivery*
Chemotherapeutic drug for epithelial ovarian cancer	Carboplatin , Paclitaxel
Chemotherapeutic drug must be included in treatment of ovarian carcinoma	Cyclophosphamide
Bevicizumab is used in treatment of	*Ovarian cancer*
NOT used in treatment of malignant germ cell ovarian tumor	*Doxorubicin*
Treatment modality for ovarian cancer	Combined modality
Recommended in women with BRCA1 and BRCA2 mutations	Prophylactic oophorectomy
56 year old female, pain abdomen with USG showing 4 cm bilateral ovarian mass with increased vascularity	Surgery
Treatment of malignant ovarian tumor	TAH with BSO
Sign of inoperability in ovarian tumor	Peritoneal involvement
Post menopausal woman with 4*4 cm ovarian mass	Surgical exploration
Treatment of pseudomyxoma peritonei	Surgery/multi surgical evaluation

VAGINAL AND VULVAL MALIGNANCY

Common DD for verrucous carcinoma	Condyloma acuminate
MC agent involved in genital wart	HPV 6
Lipschutz ulcer most commonly affects	Vagina and vulva
Color of vulva in Paget's disease	White
Pruritis vulvae is a common symptom of	Candidiasis, Trichomoniasis
Ball's operation for	Pruritis vulvae
Most common vaginal carcinoma	Squamous cell carcinoma
Adenocarcinoma of vagina	Diethylstilbestrol

Vaginal carcinoma in female offspring when given to pregnant woman	Diethylstilbestrol
Least common cause of Vaginal carcinoma	Choriocarcinoma
Classical example of Transplacental carcinogenesis	Clear cell adenocarcinoma of vagina
Involvement of pelvis in vaginal carcinoma	III
Vulval carcinoma predisposed by	Paget's disease, Vulval intraepithelial neoplasia, Bowen's disease
Premalignant condition	Leukoplakia vulva
Treatment of leukoplakia of vulva	Simple vulvectomy, Estrogen cream
NOT a premalignant condition of Vulva	Condyloma acuminatum
Gynecological cancer in young woman	*Carcinoma vulva*
Ca vulva	Spreads to superficial inguinal nodes and iliac nodes, Seen after menopause, Viral predisposition, Radiotherapy is given
Carcinoma vulva	Squamous cell carcinoma
Stage II vulval carcinoma	Tumor > 2cm invasion of vulva
TNM staging is used in	*Carcinoma vulva*
Least Malignant Vulvar Carcinoma	Basal cell carcinoma
Vulval carcinoma metastasizes to	Superficial inguinal node
Pyometria is NOT associated with	Carcinoma vulva
Sentinel biopsy most effective in	Ca vulva
Treatment of choice for early invasive carcinoma vulva	Radical vulvectomy with Lymphadenectomy

OPERATIVE SURGERY AND DIAGNOSTIC PROCEDURES

HYSTEROSCOPY

Hysteroscopy means visualization of	Uterine cavity
Used for hysteroscopy	Glycine , CO2
Hysteroscopy can NOT diagnose	Adenomyosis
Hysteroscopy NOT used in	Recurrent still birth or abortion

LAPARASCOPY

Gases for pneumoperitoneum	N2O, CO2, Room air
Advantage of carbon dioxide in laparascopy	Non irritant, Non inflammable, No tissue reaction
Best gas used for creating pneumoperitoneum at laparoscopy	CO2
Layers which are penetrated with trocar and cannula in production of pneumoperitoneum	Skin and superficial fascia, Deep fascia
Intraabdominal pressure during laparoscopy	10 – 15 mm Hg
Laparoscopy best avoided in patients with	COPD
Laparoscopy is contraindicated in	Peritonitis
Arrhythmia in laparascopy is due to	Peritoneal stretch, Hypoxia, Hypercarbia
MC arrhythmia associated with laparoscopic surgery	*Bradycardia*
Shoulder pain post laparoscopy due to	CO2 retention

HYSTEROSALPINGOGRAPHY

HSG done during	Follicular phase
HSG done	Between menstruation and ovulation
Ideal time for HSG	*Between 7th and 10th day of menstrual cycle*
Absolute contraindication for HSG	*Menstruation*
Can be diagnosed by HSG	*Hydrosalpinx*

DILATATION AND CURRETTAGE

D&C useful in diagnosis of	Genital TB, Endometrial carcinoma, DUB
MC indication of D&C	DUB

DIAGNOSIS OF OVULATION

Occurrence of ovulation indicated by	Urine LH, Serum estradiol, Progesterone, BBT
Time of ovulation best predicted by	Hormonal study
Best diagnosis of ovulation by	Serial USG
Best test for measuring graffian follicle maturation	Transvaginal ultrasound
Feature of postovulatory endometrium on ultrasound	Prominent posterior enhancement
Luteal phase defect best diagnosed by	Endometrial biopsy
Ovarian function after hysterectomy	Decrease within 2-3 years

DRUGS OF FEMALE REPRODUCTIVE SYSTEM

GENERAL FEATURES OF DRUGS OF FEMALE REPRODUCTIVE SYSTEM

Aromatase inhibitor	Letrozole
Aromatase inhibitor	*Exemestane*
Tamoxifen	Partial agonstic and antagonistic activity at estrogen receptor
Given at intervals as a pulsatile therapy	GnRH
NOT a use of leuprolide	Osteoporosis
NOT used in treatment of hot flushes	Tamoxifen

ESTROGEN

Major source of estrogen in circulation	*Theca lutein cells*
Principal site of estrogen production in males	*Liver*
Ferning of mucus depends on	Estrogen

FEMALE REPRODUCTIVE SYSTEM

Palm leaf cervix pattern due to	Estrogen
Features off cervical secretion at the time of ovulation	Spinbarket, Profuse thin mucous, Fern leaf pattern
Estrogen action on carbohydrate metabolism	Glycolysis increases
Estrogen on carbohydrate metabolism	Increases uptake of glucose through increase in insulin sensitivity
Estrogen replacement in post menopausal woman cause increase in	Triglyceride
Estrogen administration in postmenopausal woman increase	Bone mass
Hormone mainly responsible for skeletal maturation	Estrogen
Estrogen acts on	Cytoplasmic receptors
Major pathway for estrogen synthesis after menopause	*Extraglandular formation*
In post menopausal women, estrogen is metabolized mostly into	*Estrone*
Estrogen produces	Proliferative changes in endometrium
Adipose tissue converts estrogen to	*Estrone*
Effects of estrogen	Reduces LDL, increases triglycerides
Degradation product of estrogen in elderly	Estriol
Estrogen dependent clinical condition	Ca endometrium, Endometriosis, Uterine fibroid
Oestrogen treatment is given for	Hepatocellular adenoma
Estrogen is NOT used in	Previous history of thromboembolism
NOT an estrogen dependent condition	Ca cervix
Complications of Norethedorone	Weight gain, Withdrawal bleeding, hirsutism
Cause of vasodilatation in spider naevi	Estrogen
NOT true about estrogen	Decreases HDL
Thromboembolism due to which component of OCP	Estrogen
NOT an adverse effect of estrogen	Hot flushes
Gum hypertrophy NOT associated with	Estrogen therapy
SERM means	Estrogen agonist at one site and antagonist at other site
Ulipristal acetate	*Emergency contraception*

PROGESTERONE

Progesterone is produced by	Granulose luteal cell
NOT a progesterone	Mestranol
Micronized progesterone can be given by	*Oral and vaginal route*
Progesterone used for	Anovulatory cycle, Puberty menorrhagia, Endometrial carcinoma
Role of progesterone	Inhibits ovulation, Protects against endometrial cancer, Causes prompt withdrawal bleeding
Full development of endometrium is promoted by	*Progesterone*
Role of progesterone on glucose intolerance	*Increases*
Role of combined oral pills on glucose intolerance	*Decreases*
Elasticity of cervical mucosa is decreased	*Progesterone*

by	
Contraceptive effect of progesterone	Anti implantation effect
Excretory product of Progesterone	Pregnanediol
Most common progesterone metabolite in urine	Pregnanediol
Antiprogesterone	Mifepristone
Mifepristone	RU-486, 19-norsteroid, Acts on receptors, For menstrual regulation
Mifepristone	Progesterone antagonist
RU-486	Used for inducing abortion in early week of pregnancy
Mifepristone	*19 nortestosterone derivative, inhibitor of prostaglandin receptors in endometrium, effective up to 12 weeks of pregnancy, 600 mg of single dose is given orally*
Mifepristone is NOT used in treatment of	*Endometrial carcinoma*